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## Development and Validation of Transtheoretical Measure for College Student Spiritual Expression

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DEVELOPMENT AND VALIDATION OF  
TRANSTHEORETICAL MEASURES FOR  
COLLEGE STUDENT SPIRITUAL EXPRESSION

BY

JOHN A. WARD

A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF  
THE REQUIREMENTS FOR THE DEGREE OF  
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IN  
PSYCHOLOGY

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## Abstract

The study of the use of religious techniques in counseling and religious/spiritual expression has gained increased attention in research literature over the last 15-20 years. Psychologists are becoming increasingly accepting of the role of religious techniques in counseling and the role of religious/spiritual expression in human development. However, most agree that the research base needs to be more inclusive and expanded. When religion is the focus of investigation in college student populations, most attention is focused on religious beliefs and practices, and changes in beliefs over the course of the college experience.

The transtheoretical model (TTM) is an integrative model of intentional behavior change, which incorporates key constructs from other major psychological theories. The model explains how individuals change problem behaviors or acquire new, healthy behaviors. The transtheoretical model was used as a tool to assess the modification behaviors of college students who do or do not engage in religious/spiritual expression. The appropriate application of the TTM to this new topic area of spiritual expression involved proper measure development techniques.

The general objective of the current study was the development and initial validation of two constructs of the TTM for spiritual expression among college students. Decisional Balance and Situational Confidence & Temptation were developed and validated as two separate measures. This measure development study included pilot versions of three instruments 1) staging algorithm, 2) decisional balance, and 3) self-efficacy. Other existing measures were included to assess the external validity of the pilot instruments. A sequential approach was used toward

measurement development (Jackson, 1970, 1971) resulting in three decisional balance constructs, intrinsic pros, extrinsic pros, and cons. There was a cross over pattern in the decisional balance constructs and the cons decreased from precontemplation to action/maintenance and the pros increased from precontemplation to action/maintenance. There were distinct structures for the situational confidence and temptations. Confidence increased across the stages of change whereas temptation decreased across the stages. The transtheoretical measures outcome for spiritual expression parallel findings of other health behaviors and demonstrate how transtheoretical measures can be applied to spiritual expression.

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Sr., Mary Beth, Ray Jr., Sara, Dan, Lisa, Michael, Bernadette; John, Robert,  
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## Dedication

To

*belle, because of your love and strength I never gave up*

*and*

*daddy and momma, who believed Proverbs 22:6 with all their heart*

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## Introduction

### Religion and Spirituality in Research and Practice

Worthington, Kuruso, McCollough, and Sandage (1996) conducted a review of literature of the study of religion and its role in counseling, which spanned a ten year period (1984-1994). The authors state that as religious expression has become a part of multiculturalism there has been a dramatic increase in the acceptance of the role of religion in counseling. Since 1986 there has been a consistent increase in the amount of empirical research on religion and counseling. This increase is noted by Worthington reviewing 22 journals in 1986 and Worthington et al. reviewing 36 journals in 1996.

Worthington (1986) found that there was a difference in the manner in which conservative religious, the less religious, and non-religious people viewed counseling. He revealed three major areas of concern for conservative religious individuals. First, they had fears that their religious beliefs would be undermined or their values would be misunderstood or misdiagnosed. Second, they had a preference for counselors who had religious beliefs that were similar to their own. Third and final, they were concerned that their religious beliefs would change throughout the course of successful treatment to be more like that of the counselors'. Worthington et al (1996) conducted a review of religion and counseling which examined five main topic areas. Two of these topic areas, expectations and preferences of religion and counseling and religious clients' response to counseling, are relevant to the current discussion. The summary of research on the expectations of preferences of religion and counseling revealed some important points. First, clients (including religious clients) did not

want the main focus of the counseling to be solely religion. Second, the religious clients had a preference for religious counselors and most times religious counselors exclusively. Thirdly, if the counselor were to reveal his or her religious affiliation of preference (regardless of degree), the client, regardless of the degree of religiosity, would alter his or her expectations of both current treatment and outcome. The summary of the literature on religious clients' response to counseling revealed that the client did not change their religious views regardless of whether or not the counselor was religious.

The role of Christian counseling techniques has received the greatest degree of attention in the research literature. Data has been gathered on the utilization of Christian counseling techniques by way of client and counselor self report, mail surveys, and telephone interviews. Considering counseling techniques as a whole, Christian counseling techniques are rarely used; however, when they are used, they are used for religious clients more so than non-religious clients. Christian counseling techniques have been shown to produce less "critical" moments in counseling than its secular counterparts. The Christian counseling techniques that have been used most often are the use of prayer, promoting forgiveness, and teaching/learning of biblical principles. Researchers agree that more empirical studies need to be conducted to expand the base of knowledge in this area (Worthington et al, 1996). For example, the majority of studies to date have been retrospective which may elicit a source of error. It would be beneficial to conduct real time analyses of the effect of religious interventions during the counseling session. Many of the studies that have been conducted until this point have focused on one of two groups (Protestants and



Mormons). So while the majority of studies have focused on Protestants, fewer have begun to look at Judaism (Meier, 1988), Mormons (Bergin, Stinchfield, Gaskin, Masters, & Sullivan, 1988) and Eastern religions (Sweet and Johnson, 1990). The psychological theoretical orientations that have been discussed in relation to religion have been cognitive-behavioral, psychodynamic, humanistic, and health psychology (Payne, Bergin, Bielema, & Jenkins, 1991).

The overall summary of the research literature on religion and counseling is found to be lacking in many areas. Research has focused on the use of religious counseling techniques and the outcomes of treatment. While there are numerous studies that examine the manner in which religious techniques have been applied, the research on the outcomes of these techniques has been sparse. There also needs to be research on the integration of religion and secular techniques. Much of the research has used insufficient sample sizes and the treatment manuals and logs have been rare. However, on the positive side it is noted that research has generally used standardized measures and the proper statistical analyses. Worthington et al (1996) suggests that research in three critical areas must be completed: 1) study of the outcomes of the use of religious techniques; 2) examination of religious techniques that can be used in both religious and non-religious situations; and 3) an examination of secular techniques that are used with religious clients.

Allport (1966) and Allport and Ross (1967) distinguished between two forms of religious behavior and thought, extrinsic and intrinsic. Extrinsic forms of religion are utilitarian, useful in providing self safety, social standing, and promoting a chosen way of life. Conversely, intrinsic religion stresses the importance of helping others,

seeks to transcend self-centered needs, and promotes unification. Intrinsic religion should breed unity and harmony among individuals, whereas extrinsic religion will breed elite and unyielding religious orders. Research has not always confirmed these distinctions in religious expression. For instance, Batson et al. (1999) suggest that in the context of helping homosexuals reach goals and promoting homosexuality that intrinsic religion was associated with aversion. The authors further state that “intrinsic religion may well be a source of other personal and social benefit, but...it is not a source of universal compassion that is often considered a defining feature of world religions” (pp.456-457).

An alternate distinction made in spiritual life is religiosity. Religiosity is a form of spiritual expression that has received a considerable amount of attention in research literature. Religiosity has been defined as the importance of religion in one's life (Berkman & Zinberg, 1997), church attendance (Cochran & Beeghley, 1991; Larsen, Reed, & Hoffman, 1980), and the level of and adherence to one's religious beliefs (Johnson, Brems, & Alford-Keating, 1997; Cochran & Beeghley, 1991). The primary distinction between religiosity and spirituality is that religiosity, by definition, constitutes subjective and behavioral practices towards religious life in general, whereas spirituality focuses on the holistic forms religious expression, which may or may not be associated with specific doctrinal practices.

Allport and Ross (1967) posited that individuals may be divided into four religious categories. The assignment to categories is done by assessing an individual's endorsement of intrinsic and extrinsic religious items on a measure of religious orientation. Intrinsic religion is the inward, personal relationship to a higher power.

Extrinsic religion is the outward, social, use of religious doctrines and beliefs. Allport and Ross divided individuals into four groups: Pro-religious, Intrinsic, Extrinsic, and Anti-religious. Pro-religious individuals endorsed both the intrinsic and extrinsic items of the scale. The Intrinsic individuals only endorsed the intrinsic items of the scale, whereas the extrinsic individuals only endorsed the extrinsic items. The anti-religious individuals endorsed neither the intrinsic nor extrinsic items of the scale.

Richards (1991) examined how these categories could be applied to college students. He found that college students who were categorized as anti-religious still endorsed a belief in a supreme being. Knight and Sedlacek (2002) found that college students who indicate no religious preferences are classified as anti-religious, and although these students were unmotivated to practice religion in their daily lives they had traditional views about God. Richards (1991) concluded that the term anti-religious did not appropriately name these students and he labeled them non-traditional religious. He believed that although these students may reject the conservative/orthodox forms of religion and doctrine they still possess a belief in a higher power.

Religiosity should be differentiated from spirituality. Religious is typically defined as a belief in a higher power that is other than what exists in the corporeal world. So in fact a person could be spiritual and not religious (believing in a general human good or harmony of nature which is not associated with organized doctrine), or a person could be spiritual and religious (which would constitute believing in a higher power that was in line and acceptable to a set of doctrinal beliefs). A person could be religious and not spiritual which would mean holding a set of doctrines, but not

expressing or experiencing a relationship with a higher power. Finally a person could be neither spiritual nor religious or unsure of their beliefs (agnostic), or they could be anti-religious and spiritual (atheist) (Worthington et al, 1996).

Richards (1991) examined the relationship between the aforementioned categories of religion and mental health issues (depression, shame, existential well being, emotional separation, and guilt) for a sample of college students. He found that those college students who were Pro-religious and intrinsic did not have more depression and were no more prone to shame than were extrinsic and non-traditional religious students. Pro-religious and intrinsic religious college students scored as high on a measure of existential well being as did the extrinsic and non-traditional religious students. Pro-religious, intrinsic, and extrinsic religious students had less emotional separation issues from parents than did the non-traditional religious students. The pro-religious, intrinsic, and extrinsic students scored higher on a measure of guilt than did the non-traditional religious, and the intrinsic students scored higher than the extrinsic students on the same measure.

### Spirituality and Health

Although laypersons, religious and spiritual leaders have often purported positive linkages between spirituality and physical health this particular topic, as an area of research, has been the subject of speculation and investigation for only a few decades. Often the relationships between spirituality and health have been poorly understood and the evidence of the relationships has sometimes been exaggerated (Miller and Thoresen, 2003). Additionally, although scores of past research have indicated the importance of spirituality and religion, they have often not explained why and how

religion and spirituality influence health. While an exhaustive discussion of the health benefits of religious or spiritual involvement is beyond the purpose and scope of this current investigation, a brief overview of the current state of research in this topic area is important.

Miller and Thoresen (2003) described the study of spirituality and health as a true frontier for psychology and an area of study that enjoys high public interest. These authors note that prior to the early 1990s the study of spirituality and health was limited, hypotheses and methods were unclear, and outcomes were sometimes misleading. In a systematic review of religion and spiritual health Koenig et. al (2001) examined research regarding spirituality and its relation to health behaviors, mortality, hypertension, cholesterol, and heart disease, as well as several others health issues. Powell, Shahabi and Thoresen (2003) set out to examine nine specific hypotheses concerning linkages between spirituality and health. Their examination consisted of a review of previous studies purporting to demonstrate links between spirituality and health, by evaluating studies with sound methodological procedures and excluding studies with poor methodological procedures. Those studies that were excluded made no attempt to control potential confounds, included a cross sectional design, had inadequate measurements of spirituality and health, had no statistical analyses, and /or included reports on the same cohort. After adjusting for methodological errors Powell, Shahabi and Thoresen (2003) cited the strength of evidence for the nine hypotheses. There was consistent evidence that church/service attendance protects against mortality. There was also some evidence that being prayed for improves physical recovery from acute illnesses and that spirituality or religion

protects against cardiovascular disease and impedes recovery from acute illness. The research indicated inadequate evidence that religion or spirituality protects against cancer mortality and people who use religion to cope with difficulties live longer. Finally, there was consistent failures in the research to support claims that religion or spirituality slows the progression of cancer, improves recovery for acute illness, or protects against disability, nor are deeply religious people are protected against death. Similarly, Seaman, Dubin, and Seaman (2003) examined linking Judeo-Christian practices as well as Zen, yoga and meditations/relaxation practices to physiological processes. These authors noted that cardiovascular, neuroendocrine, and immune functions were all improved in populations that engaged in the aforementioned spiritual practices. The summary of the research concerning spirituality and health is favorable, and even while taking into consideration the studies with methodological faults there exists a substantial body of empirical evidence linking spirituality and health factors (Miller and Thoresen, 2003).

Because several empirical studies have identified significant associations between spirituality and health, Hill and Pargament (2003) suggested several areas of growth for the conceptualization and measurement of religion and spirituality. The measures of religion and spirituality must be more contextually sensitive to account for the wide variety of religious and spiritual traditions and innovations, other than Judeo-Christian practices, which have typically been the focus of study. There needs to be measures of religious and spiritual outcome because research has generally focused on spirituality and religion as predictors of health. There also needs to be measures of religious and spirituals change and transformations. Research methodologies must be

better equipped to examine the dynamic qualities of spirituality (i.e. the possibility of change, growth, deterioration, or stability of across time and experiences). Hill and Pargament (2003) also indicated several existing religion and spirituality scales which are functionally related to health (e.g. Spiritual Support Scale, Religious Internalization Scale, and Quest Scale). Being able to more accurately examine religious and spiritual practices will provide more dependable linkages between spirituality and health.

### The Transtheoretical Model

The transtheoretical model (TTM) is an integrative model of intentional behavior change, which incorporates key constructs from other theories. Developed by Prochaska and DiClemente (1982), the model was formulated to facilitate therapy and self-help programs for individual behavior change, as well as conceptualize the process of self-change in greater detail than had existed previously. The model was created from a comparative analysis of psychotherapy processes and behavioral change interventions. Its goal was to integrate more than 300 psychotherapy processes into one model that would explain the methods for change. The comparative analysis defined ten key processes by which individuals change (e.g. Stimulus Control—Skinnerian tradition or Helping Relationships—Rogerian tradition). The model explains how individuals change problem behaviors or acquire new, healthy behaviors. The central organizing construct of the model is the Stages of Change, but it also includes the independent variables, Processes of Change, and intermediate outcome measures Decisional Balance and Self-Efficacy scales (Confidence and Temptation) (Prochaska and Velicer, 1997).

The transtheoretical model involves emotional, cognitive, and behavioral influences of decision making and change, which rely on self report. Measurement is an important aspect of the model, which is why a critical step in the application of the model is developing short, reliable, and valid measures for each of the key constructs. Since the initial studies of smoking (Prochaska & DiClemente, 1983; Prochaska, DiClemente, Ginpil, & Norcross, 1985) the model has expanded to the application of a broad range of health and mental health behaviors. These applications include, but are not limited to: smoking cessation, weight control, high fat diets, safe sex, condom use, mammography screening, exercise, and radon gas exposure (Prochaska & Velicer, 1997).

Research on the transtheoretical model has included empirical study of the reliability and validity of key constructs such as the Stages and Processes (Prochaska, Velicer, DiClemente, & Fava 1988). Research has also included the predictive validity of the model when static variables such as demographics and problem history have been compared to Stages and Processes (Wilcox, Prochaska, Velicer, & DiClemente, 1985). Still, other research has examined the specific relationship between constructs of the model such as Stages and Decisional Balance and Processes (DiClemente, Prochaska, Fairhurst, Velicer, Velasquez, & Rossi, 1991).

### Stages of Change

Studies of behavioral intervention programs reveal that individuals progress through a series of stages. The stages represent the continuum of motivational readiness of an individual in regards to changing their problem behavior. The stages represent the temporal dimension of the scales which represent when changes occur.



Currently, the transtheoretical model construes change as a progression through five stages (DiClemente et al., 1991). The stages have been conceived in both a linear and cyclical manner. Progress through the stages may be considered a progression (advancement to a later stage) or regression (reverting to an earlier stage). Often individuals will recycle through earlier stages as they gradually progress to maintenance (Prochaska, DiClemente, & Norcorss, 1992).

Precontemplation is the stage in which individuals are not intending to change in the foreseeable future, which is usually measured as within the next six months. A six month period of time was chosen because it appeared to be as far in the future as individuals consider changing a behavior. Individuals in this stage are uninformed or under-informed about the consequences of their problem behavior. Individuals in this stage are typically difficult and resistant clients in therapy, and they are not motivated for action oriented behavioral intervention programs. These individuals may also be described as demoralized by previous unsuccessful attempts to change (Prochaska, Redding, & Evers, 1997; Prochaska, DiClemente, & Norcross, 1992).

Contemplation is the stage in which individuals are intending to change within the next six months. They are more aware of the positive and negative aspects of changing their behavior than precontemplators (Prochaska, Redding, & Evers, 1997). Often a person may become “stuck” in this stage at which point they would be referred to as chronic contemplators. They seem to be constantly thinking about changing but never take the actual behavioral steps to change which would advance them to the next stage of change.

Preparation is the stage in which individuals are intending to change with in the next 30 days (DiClemente et al. 1991). They have a definite plan of action as to how they are going to change their problem behavior (e.g. going to a doctor, buying fewer cigarettes, joining a health club, etc.) These individuals have may have made adjustments (cognitive and/or behavioral) to their behavior, but these adjustments do not meet action criteria. Also, these individuals have often been in action within the last year. Given the variability of individuals at this stage, preparation may be referred to as a transition stage rather than a stable stage (Grimely, Prochaska, Velicer, Blais, & DiClememte, 1994).

Action is the stage in which individuals have been making overt changes in their problems behavior for less than six months (Prochaska et al., 1997). To officially meet the criteria for action the individual must be making observable steps that are necessary to decrease risk from the problem behavior (Velicer, Evans, Norman, Fava, & Prochaska, 1998).

Maintenance is the stage in which individuals continue their changes while trying not to relapse back into their problem behavior. Individuals in this stage use fewer processes and change their processes less often, as well as have the highest levels of self-efficacy (Prochaska and DiClemente, 1984). This stage may last from 6 months to five years or more.

Termination is the stage in which the individual has zero temptation and 100% confidence that they will not relapse back into their problem behavior. Regardless of the situation that the individual is in they will not revert back to unhealthy habits. It is like the person had never acquired the problem behavior to begin with (Prochaska &

Velicer, 1997). Also worth noting at this point is Relapse. Relapse is not a separate stage, but rather is a reverting from a later stage (e.g. maintenance or action) to an earlier stage (e.g. contemplation). Unfortunately the trend is that once a person meets action criteria they do at some point relapse (Prochaska et al., 1991).

### Processes of Change

The processes of change are the independent variables that individuals use to progress from one stage to the next. There has been empirical evidence for ten processes in the research literature. The processes may be divided in two categories, experiential and behavioral. The experiential processes are the covert, individual, and cognitive/affective (emotional) strategies individuals use to change. The behavioral processes are the overt, individual or plural, and physical mechanisms that individuals use to change (Prochaska et al., 1988; Prochaska, Diclemente, & Norcross 1992). The experiential processes are typically used in the beginning stages of change and include consciousness raising, dramatic relief, environmental reevaluation, self-reevaluation, and social liberation. The behavioral processes are typically used in the later stages of change and include counterconditioning, helping relationships, reinforcement management, self-liberation, and stimulus control (Prochaska & Velicer, 1997).

Consciousness Raising involves increasing personal awareness of the consequences of continuing a problem behavior. An example of an intervention would be bibliotherapy or education.

Dramatic Relief involves an initial flooding of negative affect, which should be followed by a cathartic release or increase in positive affect. An example of this intervention would be grieving or role playing.

Self-Reevaluation involves cognitive and affective appraisals of personal life with and without the presence of the problem behavior.

Environmental Reevaluation involves cognitive and affective appraisals of the individual's social environment with and without the presence of the problem behavior.

Self-Liberation involves a cognitive reappraisal of one's ability to modify the problem behavior as well as a commitment to do so.

Social Liberation involves an increase in social situation where a person can modify the problem behavior.

Counterconditioning involves when a problem behavior is manifest by changing or substituting the problem behavior with a more appropriate one.

Stimulus Control involves replacing cues for the unhealthy behavior with cues for a healthier alternative.

Reinforcement Management involves supplying a consequence for engaging in a specific behavior. This usually involves reinforcement but may include punishment.

Helping Relationships involves trust, caring and empathy as well as a social support to deal with the problem behavior.

Each of the processes may consist of several different techniques and interventions which may be associated with different theoretical orientations. Individuals in a particular stage frequently use more than one process at a time in their efforts to make changes. Multiple examinations of the relationship between the stages change and the processes of change have demonstrated a consistent pattern of processes used by

individuals at different stages (DiClemente & Prochaska, 1982; Prochaska & DiClemente, 1983; Prochaska et al. 1991).

### Decisional Balance

Decisional Balance is the relative weighing of the positive and negative aspects of engaging in a specific behavior. Decisional balance was based upon Janis and Mann's (1977) conflict theory of decision-making, which was intended as a model representing both cognitive and motivational aspects of human decision making. Janis and Mann posited that individuals will consider the balance between the gain and losses associated with adopting a behavior. Four categories have been outlined which have been examined in transtheoretical model research. The gains and losses include: utilitarian gains and losses for self and utilitarian gains and losses for others. The approvals and disapprovals include: approval and disapproval of self and approval and disapproval from others. These eight categories have traditionally been sought after for this measure; however, only two categories have received empirical support in the research, Pros and Cons (Velicer, DiClemente, Prochaska, & Brandenburg, 1985).

Consistent findings of support for only the Pros and Cons of behavior change in TTM research has led to a focus on this simpler two-factor structure. Prochaska's et al. (1994) examination of 12 health behaviors confirmed the importance the relationship between the pros and cons on an individual's progress through the stages of change. Similarly, Prochaska's et al. (1994) examination of 12 health behaviors also demonstrated decisional balance as a core construct of the model. Progress from precontemplation to contemplation involves an elevation of the pros of behavior

change, whereas progressing from contemplation to action involves a decrease in cons of changing.

Prochaska (1994) outlined a mathematical relationship between the two decisional balance constructs and movement across the stages of change. The “strong” principle of change states that progression from precontemplation to action for a particular behavior is a function of approximately one standard deviation increase in the pros of changing, summarized in the formula:  $PC \rightarrow A = 1 \text{ SD } \uparrow \text{ Pros}$ . Correspondingly, the “weak” principle of progress states that progress from precontemplation to action for a specific behavior corresponds to a .5 standard deviation decrease in the cons of changing, summarized in the following formula:  $PC \rightarrow A = .5 \text{ SD } \downarrow \text{ Cons}$ .

#### Self Efficacy (Situational Confidence and Temptation)

Self-efficacy is the confidence that one has that they can perform the desired behavior. This TTM construct is based on Bandura’s (1977) self-efficacy theory. The TTM assesses self-efficacy by way of two components, temptation and confidence. Temptation is the urges that one has that he or she will engage in the problem behavior in a challenging situation. Often confidence and temptation is the converse of one another and may be measured by the same items by changing the response format. The three issues that traditionally influence situational confidence is negative affect (emotions), positive social situations, and habituation or addiction (Velicer, DiClemente, Rossi, & Prochaska, 1990).

Situational confidence increases across the five stages and temptation decreases across the five stages (Prochaska et al. 1991). Situational confidence and temptation may be used to predict movement through stages. Precontemplators have low self-

efficacy about the ability to change problems behaviors; however, confidence increases as one reaches the maintenance stage. Prochaska et al. (1991) revealed that confidence scores are significantly related to the stage that an individual is in. Similarly temptations are significantly related to the stage of change that and individual is in.

### Applying the TTM to Spiritual Expression among College Students

The study of the use of religious techniques in counseling and religious/spiritual expression has gained increased attention in research literature over the last 15-20 years. Psychologists are becoming increasingly accepting of the role of religious techniques in counseling and the role of religious/spiritual expression in human development. However, most agree that the research base needs to be more inclusive and expanded. When religion is the focus of investigation in college student populations, most attention is focused on religious beliefs and practices, and changes in beliefs over the course of the college experience. Knight and Sedlacek (2002) posit that religious research involving college students is often limited. First, there is often a neglect of the developmental issues and challenges of the age cohort, which results in polarized findings regarding the religious orientation of students. Current research in the area of college student religious orientation also tends to fixate on orthodox and conservative religious and/or spiritual practices and beliefs. Second, as stated previously, too much attention has been paid to homogenous populations of specific religious traditions (e.g. Catholics and Mormons). Third, much less attention has been afforded to understanding of the general forms of spiritual expression in the average life of college students, which must be undertaken before any serious attempt to

understand the religious and spiritual attitudes of college students. The initial purpose of applying the transtheoretical model to religious/spiritual expression in college students is not to confirm or validate the benefits of the use of this expression or document this expression for this population. It will be used as a tool to assess the modification behaviors of college students who do or do not engage in religious/spiritual expression. The appropriate application of the TTM to this new topic would have to involve proper measure development techniques.

### Research Hypothesis

The general objective of this study is the development and initial validation of two constructs of the TTM for spiritual expression among college students. Decisional Balance and Situational Confidence and Temptation will be developed and validated as two separate measures. The research hypotheses are as follows:

H1. There will be two underlying themes to the items one being benefits and the other being costs. Specifically, two independent decisional balance constructs, pros and cons, will exist for spiritual expression among college students. Similar to the manner in which 12 problem behaviors demonstrated independent decisional balance components (Prochaska et al., 1994) and currently up to 37 problem behaviors, this study will also display a relationship between the pros and cons of spiritual expression.

H2. A cross over pattern will occur in the decisional balance construct. The cons of spiritual expression will be higher than the pros in the Precontemplation stage, and in the Action stage the pros of spiritual expression will be higher than the cons (Prochaska et al, 1994).



H3. Across the stages from Precontemplation to Action, the pros of spiritual expression will increase, whereas the cons of spiritual expression will decrease. Further, the pros of spiritual expression will increase more than the cons of spiritual expression will decrease (Prochaska, 1994).

H4. Although not explicitly hypothesized, a distinct structure comprised of Situational Confidence and Temptation subscales will become manifest after being examined empirically.

H5. The scores for Situational Confidence will increase across the five stages of change and will decrease for Temptation across the five stages of change (Prochaska et al., 1991).

H6. Although not explicitly hypothesized, there will be a distinctive pattern in which participants identified as expressing intrinsic forms of spirituality, as opposed to those who express extrinsic forms of spirituality, are categorized in a stage of change and endorse decisional balance items and situational confidence and temptation items.

## Methods

### Procedure

The participants were recruited from Miami University (MU), a mid-sized public Midwest university in Oxford, Oh, and the University of Rhode Island (URI), a mid-sized public Northeastern university in Kingston, RI. Specifically, the participants were recruited from the respective university's psychology department participant pool whereby participants earned course credit for participation. The participants were also recruited during regularly scheduled course time periods. The participants

filled out the questionnaire during a scheduled experiment session or they completed the questionnaire during a class period. The questionnaire was approved by the appropriate institutional review boards, and the participants were informed that their participation was voluntary and all data was kept anonymously. All participants were over 18 years of age.

The participants completed a survey, which was composed of six questionnaires, including the measures listed below and demographic items. Participants were given a handout informing them of the nature of the study and the nature of any possible risks associated with their participation. Participants were also given the investigator's contact information if they desired further information. The participants' signature indicated that they had read and understood the consent form and that they agreed to participate (see Appendices A & B respectively for URI and Miami consent forms). The entire survey took approximately 25-50 minutes to complete.

Specific and deliberate steps were taken to ensure that the rights, safety, and anonymity of the participants were protected. These steps included:

1. Participants were supplied with a statement of informed consent, which also included a verbal reminder that their participation was strictly voluntary.
2. Data was kept anonymously. The participants' names (or any other identifying information) were never recorded on a survey. Separate documentation of the participants' involvement was kept ensuring that no survey might be associated with any one participant.

3. After the surveys were completed the participants deposited them in a large envelope or small box. The completed surveys were not handed directly to the experimenter.
4. When the survey was administered during a class time period two additional steps were taken to ensure that the rights, safety, and anonymity of the participants were protected.
  - a. The course instructor was not present during the administration of the survey to reduce any sense that involvement was mandatory, and
  - b. When the survey was offered for extra credit, an alternate extra credit assignment was made available for any participant who chose not to take part in the survey.

### Measures and Materials

The measure development study included pilot versions of three instruments: 1) staging algorithm, 2) decisional balance, and 3) self-efficacy. Other existing measures were included to assess the external validity of the pilot instruments.

Stage of Change Algorithm. In order to assess the stage of change for the participants a staging algorithm was utilized. The participants were asked to read the behavioral definition of spirituality and answer five questions. The behavioral definition of spiritual expression was defined as, "...an active and deliberate manifestation of beliefs or behaviors, which are sacred in nature. Spiritual expression comprises activity (e.g. church attendance, prayer/meditation, Bible reading), which is performed to enhance one's spiritual life. Such activity should be a consistent concern

and is selected by choice (i.e. it is not mandatory). Spiritual Expression does not have to consume your day but is done to increase your awareness and growth.” Participants were then asked how often they exhibit spiritual expression, the length of time they have currently engaged in the expression, and when they intend to engage in the expression. In addition the participants were asked questions related to the action criteria to specifically assess their stage.

Decisional Balance. An 83-item questionnaire, which represents the pros and cons of spiritual expression, assessed the participants’ level on the construct of the decisional balance inventory. This scale was intended to measure how important particular statements are in the decision to express spirituality. The scale utilized a 5-point Likert scale ranging from: 1 = not important to 5 = extremely important. Examples of scale items are “I am a good and moral person because I go to church,” and “I will lose friends if I express my spirituality”.

Self-Efficacy. A 67-item questionnaire, which represents challenging situations or events, was used to assess participants’ self-efficacy in regards to spiritual expression. This scale assessed both the participants’ level of confidence and level of temptation when faced with a particular situation or event. Self-efficacy is the confidence that one has that he or she can perform spiritual expression. Temptation is the urges that one has that he or she will not engage in the spiritual in a challenging situation. The scale utilized a 5-point Likert scale ranging from: 1 = not at all confident/ tempted to 5 = extremely confident/ tempted. Examples of items are “With friends at a party,” and “when I am with others who share my same beliefs”.

Spiritual Well Being Scale (SWBS). The SWBS (Paloutzian & Ellison, 1982) was developed as a general measure of spirituality, or rather subjective quality of life. The scale measures an individual's subjective sense of well being from both a religious and existential perspective. The religious dimension of the scale, religious well being (RWB), focuses on how spiritual well-being is perceived as expressed in a relation to God. The social psychological dimension, existential well being (EWB), is concerned with how well the individual is adjusted to self and the surrounding social environment (see Appendix C). The test-retest reliability (1, 4, 6, and 10 week intervals) ranged from .88 to .99 for RWB, .73 to .98 for EWB and .82 to .99 for the overall SWBS. Data indicate a high internal consistency for the scale, which ranges from .82 to .94 for RWB, .78 to .86 for EWB, and .89 to .94 for the overall SWBS. The authors of the scale report face validity, by way of a factor analysis that yield two factors comprising the two subscales. The authors also indicate validity by correlations between the SWBS and other measure it is thought to be associated with on theoretical grounds (e.g. measures of loneliness, self confidence and intrinsic religious orientation).

Religious Orientation Scale (ROS). The ROS is based on Allport and Ross's (1967) conceptualization of extrinsic versus intrinsic forms of religion, whereby one's religious practices may constitute an environmental gain or an internal source of fulfillment. The scale is divided into two subscales, Extrinsic and Intrinsic. The extrinsic subscale assesses an individual's degree of acknowledgement of the peripheral role that religion plays in his or her life, while the intrinsic subscale assesses the extent to which religion is the major motivating factor in one's life (see

Appendix D). The items of both scales are measured on a 5-point Likert scale ranging from: 1= strongly disagree to 5 = strongly agree. Internal consistency for the intrinsic subscale ranges from adequate to excellent (typically mid .80s), but the internal consistency for the extrinsic subscales is typically lower .70s (Donahue, 1985). Two week, test-retest reliability has been quoted at .84 and .78 for the intrinsic and extrinsic subscales respectively (Burris and Tarpely, 1998). Both subscales have been found to be valid in that they assess those religious ideals they intend to (i.e. numerous studies have found a positive correlation between the intrinsic subscale and measures of one's general sense of purpose in life, and the extrinsic scale is positively correlated with other measures that serve to assess ones need to enhance social status and negatively correlated with measures of religious commitment) (Donahue, 1985).

General Spirituality/Religiosity Items. A series of short questions was asked to gather basic information about the spirituality styles, attitudes, and behaviors of the participants. These items will include questions regarding spiritual orientation, current religious affiliation, past religious affiliation, church attendance, amount of prayer or mediation, amount of reading, and satisfaction with spiritual expression.

Demographics. A short series of questions was asked to gather some basic demographic information about the participants in the study. These items included questions regarding gender, age, marital status, ethnicity, year in school, and fraternity or sorority membership, athletics, and sexual orientation.

The complete survey is listed in Appendix E.

## Analyses

A sequential approach was used toward measurement development (Jackson, 1970, 1971). A four-step method of measure development was utilized: 1) defining a conceptual model; 2) developing an initial item pool; 3) establishing internal validity; and 4) establishing external validity.

In regards to the definition of a conceptual model, the model that the measures are based on is the transtheoretical model. As mentioned in previous sections, this model served as the primary theoretical basis for measures utilized and developed in this study. In regards to development of an initial item pool, the items included in the appendices were generated in a variety of manners. Items were based on primary theoretical concepts in the TTM. The items were also generated using a sentence mapping technique, whereby the root fragment of a sentence was kept constant and various qualifying nouns or verbs were inserted to form new sentences. As noted previously, large numbers of items were generated for each construct.

The goal of establishing internal validity is to examine the relationship between the items and the underlying structures or components. The first step of data analysis was to examine the descriptive statistics of the data, and this preliminary analysis of items revealed initial poor items. The descriptive statistics that were utilized included distribution characteristics such as mean, standard deviation, skewness and kurtosis of scores. Items that cause extreme scores were eliminated (i.e. items with non-central means  $\leq 2.0$  or  $\geq 4.0$ , items with skewness  $> 2.0$ , and items with kurtosis  $> 4.0$ ). The remaining analyses were run on a randomly split samples resulting in exploratory and confirmatory halves. Since the general procedure for analyses of Decisional Balance

and Self Efficacy are quite similar, their proposed analyses will be described in general terms.

The exploratory phase of the analyses addressed two important tasks. Principal component analyses (PCA) and structural equation modeling (SEM) were conducted on both decisional balance and self-efficacy in order to ascertain the latent components of each construct. PCA was utilized (with use of the computer programs SPSS and CAX) to aid in determining the number of resulting components as well as the component loading of each item. Along with theoretical considerations, the number of components to retain was based on statistical grounds using minimum average partial (MAP) correlation procedure and parallel analysis (Horn, 1965; Velicer, 1976, Zwick & Velicer 1986). When differences occurred in the extracted solutions between the two methods, the most theoretical meaningful solution was chosen. Items were included in the components if they did not have poor or complex loadings (i.e. loadings of .2 on two or more components and clearly load on one component  $> .50$ ). Items were retained if it loaded at .50 or greater on the targeted component. Cronbach's alphas were calculated to determine the reliability and appropriate length of the scales.

Once the items with the most favorable loadings and reliability were retained for each scale, measurement model testing using EQS program for SEM was conducted to further assess the adequacy of the factor structures. Measurement models were assessed using a maximum likelihood solution. Four models were tested, each representing a different conceptualization of the factor structure: 1) null model; 2) one-factor model; 3) uncorrelated-factor model; and 4) correlated factor model. Since



there is no single accepted index of fit model, several measures of fit were utilized to aid against model misspecification and sampling error. In assessing the fit of the specified models three different fit indices were calculated for each model which include the chi-square/degrees of freedom ratio ( $\chi^2/\text{df}$ ); Bentler Comparative Fit Index (CFI), Bentler-Bonnet Non Normed Fit Index (NNFI), Bentler Normed Fit Index (NFI), root mean squared error of approximation (RMSEA), and average absolute squared residual (AASR). A  $\chi^2/\text{df}$  ratio that is above 5.0 indicates an unacceptable large difference between data and model. CFI of .90 or greater is assumed to provide a good fit for the data (Bentler, 1990)—CFI is a measure of portion of the variation and covariation explained by the model. An AASR value of less than .05 indicates good model fit—AASR is an index of discrepancy between the data and the model (Bentler 1990).

After the exploratory phase, confirmatory procedures were run on the second random half of the data. After the finalized number of items was reached, SEM was conducted as a confirmatory procedure. This analysis was conducted to test the measurement models and determine the model that was supported with the current data.

A multivariate analysis of variance (MANOVA) was conducted to validate the measures by examining the relationship of the TTM measures by stage. Follow-up analysis of variance (ANOVAs) and Tukey tests determined among which stages the differences were found and if the model is validated with the sample. Finally, effect sizes were computed for significant ANOVAs.

It was expected that the pros and cons of spiritual expression would emerge as two independent constructs. By examining mean differences across stages, the construct validity of decisional balance was tested. A pattern was expected so that the cons will be rated higher than the pros in the precontemplation stage. The crossover pattern will reverse for the action stage so that the crossover occurs at the contemplation or preparation stage. Finally, between the precontemplation and action stage it was expected that the pros would increase more than the cons decrease.

The expected result for self-efficacy was that a hierarchical structure comprising the subscales would emerge. By examining the mean differences across stages, construct validity for self-efficacy was tested. It is expected that scores for confidence and any subscale will increase across the five stages, whereas the scores for temptation would decrease across the five stages.

Finally, the correlation of the measures among each other and with all demographic variables for which there is sufficient variation was investigated. It is expected that such variation would occur for ethnicity and the religiosity items, but will most likely not occur for the other demographic variables. Validity analyses were conducted utilizing the SWBS and ROS for both internal and external validation. Both the SWBS and ROS were examined to determine if any degree of correlation exists among them and Decisional Balance, Confidence, and Temptation scales. The SWBS and ROS also were used to determine the degree of correlation with the stages of change.

## Results

### Participants

Descriptive statistics and frequencies were completed on the total sample ( $N = 319$ ). Participants for the study recruited from Miami University (MU:  $n = 185$ , 58%) and the University of Rhode Island (URI:  $n = 134$ , 42%). There were 92 males (28.8%) and 224 females (70.2%), and the mean age of the participants was 19.91 years ( $SD = 1.48$ , range = 18-32). Eighty-six percent ( $n = 273$ ) of the participants indicated their ethnicity as solely Caucasian. Further demographic characteristics of the participants are listed in Table 1.

### Subgroup Comparisons for MU and URI Samples

A multivariate analysis of variance (MANOVA) was conducted to compare the MU sample to the URI sample for many of the variables included in the questionnaire, Wilk's  $\Lambda = .84$ ,  $F(1,307) = 6.47$ ,  $p < .001$ ,  $\eta^2 = .16$ . Follow-up analysis of variance (ANOVAs) detected three significant mean differences between the samples including age  $F(1,307) = 30.71$ ,  $p < .001$ ,  $\eta^2 = .09$ ; athletic participation  $F(1,307) = 25.04$ ,  $p < .001$ ,  $\eta^2 = .08$ ; and class standing  $F(1,307) = 23$ ,  $p < .001$ ,  $\eta^2 = .07$ . There were no significant differences detected between the two samples on gender, marital status, fraternity/sorority membership, sexual orientation, spiritual orientation, and race. Table 2 lists the characteristics of the total sample and the two subgroups.

### Measure Development

#### Decision Balance

To determine the existence of independent decisional balance constructs for college student spiritual expression, the complete data set was first randomly split into two

halves. The first half (Sample I) was designated for exploratory analyses and the second half (Sample II) was designated for confirmatory analyses. Item analyses on Sample I commenced with an assessment of the distribution of the scores (examining the means and standard deviations) as well as an assessment of the shape of the distribution (examining the skewness and kurtosis). Thirty-six items were deleted from the analysis because of non-central means (i.e. means  $\leq 2.0$  or  $\geq 4.0$ ) and/or skewed or kurtotic distributions (i.e. skewness  $> 2.0$  and kurtosis  $> 4.0$ ).

An exploratory principal component analysis (PCA) was performed on the 47 x 47 matrix of interitem correlations generated from Sample I using pairwise deletion ( $n = 167$ ). Both parallel analysis (Horn, 1968) and the minimum average partial (MAP; Velicer, 1976; Zwick & Velicer, 1982, 1986) rules suggested the retention of three components. Orthogonal (varimax) rotation was conducted and the resulting component pattern was examined. An item was retained if it met the following criteria: 1) it loaded at .50 or greater on a specified component; 2) it did not load higher than .40 on any other component; and 3) the item did not have a loading of  $\geq .20$  on two or more components. Items were deleted if they did not load on any component or did not meet the preceding criteria. At this stage, 13 items were removed because they failed to meet the retention criteria. Reliability analyses were conducted on the remaining items to examine internal consistency of each component and to determine if they substantially reduced the alpha of the subscale or if any items were redundant based on high interitem correlations. Six items were deleted due to their suppression of component alpha levels.

A second PCA was performed on the remaining items, which also produced a three component solution. The same retention criteria as in the first PCA were evaluated and one item was removed because of a complex loading. Similarly, the same reliability procedures were conducted as before, and nine items were removed due to redundancy.

A third and final PCA was performed and yielded a three component solution (i.e. all retention criteria were met) with five items on component one (eigenvalue = 5.48), five items on component two (eigenvalue = 2.68), and five items on component three (eigenvalue = 1.57). These three components accounted for 64.86% of the total item variance. Qualitative analysis of the items supported the three component solution (i.e. one component for cons and two components for pros, which were clearly divided into intrinsic versus extrinsic pros of spiritual expression). Again reliability analyses were run on the remaining items, and in addition item content for each component was qualitatively assessed to ensure the meaningful representation of the construct domain. Cronbach's coefficient alpha was calculated for each component (intrinsic pros  $\alpha = .98$ ; extrinsic pros  $\alpha = .90$ ; and cons  $\alpha = .90$ ).

The exploratory half of the data split, Sample I, measurement model testing was performed on the final set of items to determine which conceptualization best fit the data. Measurement models were compared with a maximum likelihood solution using EQS. Four measurement models were examined, each describing a different conceptualization of the decisional balance factor structured that emerged from the principal component analysis. The competing models were:

1. Null (Independent) Model: The null model implies that there were no latent factors and that the items were completely independent. The null model was assumed not to be a substantive representation of the data but rather was intended to be utilized as a baseline to which to compare the other models.

2. One Factor Model: The one factor model assumed that all items were associated with one latent decision making factor.

3. Uncorrelated Three Factor Model: The uncorrelated three factor model hypothesized each latent factor as three independent decision making constructs.

4. Correlated Three Factor Model: The correlated three factor model hypothesized each latent factor as three related decision making constructs, allowing the three latent constructs to be correlated.

In addition to the  $\chi^2$  and  $\chi^2/df$  assessment of the fit of the specified models, five different fit indices were calculated for each model: Bentler Comparative Fit Index (CFI), Bentler-Bonnet Non Normed Fit Index (NNFI), Bentler Normed Fit Index (NFI), root mean squared error of approximation (RMSEA), and average absolute squared residual (AASR). The use of several measures of fit were utilized to guard against the possibility of model misspecification. Evaluation of all of the exploratory models that were examined is summarized in Table 3. Based on these results, the pros and cons best fit the data when they are conceptualized as three separate, ( $\chi^2(3) = 58.20, p < .001$ ), but correlated factors (Model 4). The final model is presented in Figure 1.

Reliability analyses were conducted on the final scales using Sample II. Cronbach's coefficient alpha for the intrinsic pros scale was .92, coefficient alpha for

the extrinsic pros scale was .79, and coefficient alpha for the cons scale was .70. In order to confirm the structure of the measurement model developed with Sample I, a confirmatory factor analyses using Sample II was also conducted. The correlated three-factor model provided a good fit to the data, based on the following fit indices:  $\chi^2 (\underline{n} = 152, 87) = 156.74$ ;  $\chi^2/\text{df} = 1.80$ ; CFI = .93; NNFI = .91; NFI = .85; RMSEA = .07; and AASR = .06. Evaluation of all of the confirmatory models ( $\chi^2 (3) = 41.82$ ,  $p < .001$ ) that were examined is summarized in Table 4. The statement wording of the final scale is presented in Table 5. The confirmatory model is displayed in Figure 2.

### Situational Confidence

To determine the existence of independent situational confidence constructs for college student spiritual expression, the complete data set was first randomly split into two halves. The first half (Sample I) was designated for exploratory analyses and the second half (Sample II) was designated for confirmatory analyses. Item analyses on Sample I commenced with an assessment of the distribution of the scores (examining the means and standard deviations), as well as an assessment of the shape of the distribution (examining the skewness and kurtosis). Six items were deleted from the analysis because of non-central means (i.e. means  $\leq 2.0$  or  $\geq 4.0$ ) and/or skewed or kurtotic distributions (i.e. skewness  $> 2.0$  and kurtosis  $> 4.0$ ).

An exploratory principal component analysis (PCA) was performed on the 61 x 61 matrix of interitem correlations generated from Sample I using pairwise deletion ( $\underline{n} = 167$ ). Pattern rotations for the MAP rule (Velicer, 1976; Zwick & Velicer, 1982, 1986) suggested the retention of eight components. Orthogonal (varimax) rotation was conducted and the resulting component pattern was examined. An item was retained if

it met the following criteria: 1) it loaded at .50 or greater on specified component; 2) it did not load higher than .40 on any other component; and 3) if the item did not have a loading of  $\geq .20$  on two or more components. Items were deleted if they did not load on any component or did not meet the preceding criteria. At this stage, 31 items were removed because they failed to meet the retention criteria. Reliability analyses were conducted on the remaining items to examine internal consistency of each component and to determine if they substantially reduced the alpha of the subscale or if any items were redundant based on high interitem correlations. No items were deleted because of their impact on the alpha levels of the eight components.

A second PCA was performed on the remaining items for both parallel analysis (Horn, 1968) and MAP rules suggested the retention of four components. The same retention criteria as in the first PCA were evaluated and one item was removed because of a complex loading. Similarly, the same reliability procedures were conducted as before, and 15 items were removed due to redundancy.

A third and final PCA was performed and yielded a three component solution (i.e. all retention criteria were met) with four items on component one (eigenvalue = 7.14), five items on component two (eigenvalue = 1.97), and four items on component three (eigenvalue = 1.20). These three components accounted for 79.28% of the total item variance. Qualitative analysis of the items supported the three component solution (i.e. which were clearly divided into one component for peer social situations, a second component for negative moods, and a third component for positive moods). Again reliability analyses were run on the remaining items, and in addition item content for each component was qualitatively assessed to ensure the meaningful representation of



the construct domain. Cronbach's coefficient alpha was calculated for each component (peer social situations  $\alpha = .92$ ; negative moods  $\alpha = .91$ ; and positive moods  $\alpha = .94$ ).

In the exploratory half of the data split, Sample I, measurement model testing was performed on the final set of items to determine which conceptualization best fit the data. Measurement models were compared with a maximum likelihood solution using EQS. Four measurement models were examined, each describing a different conceptualization of the situational confidence factor structured that emerged from the principal component analysis. The competing models were:

1. Null (Independent) Model: The null model implies that there were no latent factors and that the items were completely independent. The null model was assumed not to be a substantive a representation of the data but rather was intended to be utilized as a baseline to which to compare the other models.
2. One Factor Model: The one factor model assumed that all items were associated with one latent decision making factor.
3. Uncorrelated Three Factor Model: The uncorrelated three factor model hypothesized each latent factor as three independent decision making constructs.
4. Correlated Three Factor Model: The correlated three factor model hypothesized each latent factor as three related decision making constructs, allowing the three latent constructs to be correlated.

In addition to the  $\chi^2$  and  $\chi^2/\text{df}$  assessment of the fit of the specified models, five different fit indices were calculated for each model: Bentler Comparative Fit Index (CFI), Bentler-Bonnet Non Normed Fit Index (NNFI), Bentler Normed Fit Index

(NFI), root mean squared error of approximation (RMSEA), and average absolute squared residual (AASR). The use of several measure of fit is conducted to guard against three possibility of model specification. Evaluation of all of the exploratory models that were examined is summarized in Table 6. Based on these results, the situational confidence factors best fit the data when they are conceptualized as three separate ( $\chi^2(3) = 118.82, p < .001$ ), but correlated factors (Model 4). The final model is presented in Figure 3.

Reliability analyses were conducted on the final scales using Sample II. Cronbach's coefficient alpha for the peer social situations scale was .90, coefficient alpha for the negative moods scale was .87, and coefficient alpha for the positive moods scale was .95. In order to confirm the structure of the measurement model developed with Sample I, a confirmatory factor analyses using Sample II was also conducted. The correlated three-factor model provided a good fit to the data, based on the following fit indices:  $\chi^2(n = 152, 62) = 90.08$ ;  $\chi^2/df = 1.45$ ; CFI = .98; NNFI = .97; NFI = .92; RMSEA = .06; and AASR = .04. Evaluation of all of the confirmatory models ( $\chi^2(3) = 110.13, p < .001$ ) that were examined is summarized in Table 7. The statement wording of the final scale is present in Table 8. The confirmatory model is displayed in Figure 4.

### Temptation

To determine the existence of independent temptation constructs for college student spiritual expression, the complete data set was first randomly split into two halves. The first half (Sample I) was designated for exploratory analyses and the second half (Sample II) was designated for confirmatory analyses. Item analyses on

Sample I commenced with an assessment of the distribution of the scores (examining the means and standard deviations), as well as an assessment of the shape of the distribution (examining the skewness and kurtosis). Three items were deleted from the analysis because of non-central means (i.e. means  $\leq 2.0$  or  $\geq 4.0$ ) and/or skewed or kurtotic distributions (i.e. skewness  $> 2.0$  and kurtosis  $> 4.0$ ).

An exploratory principal component analysis (PCA) was performed on the 64 x 64 matrix of interitem correlations generated from Sample I using pairwise deletion ( $n = 167$ ). Pattern rotations for the MAP rule (Velicer, 1976; Zwick & Velicer, 1982, 1986) suggested the retention of eight components. Orthogonal (varimax) rotation was conducted and the resulting component pattern was examined. An item was retained if it met the following criteria: 1) it loaded at .50 or greater on specified component; 2) it did not load higher than .40 on any other component; and 3) if the item did not have a loading of  $\geq .20$  on two or more components. Items were deleted if they did not load on any component or did not meet the preceding criteria. At this stage 32 items were removed because they failed to meet the retention criteria. Reliability analyses were conducted on the remaining items to examine internal consistency of each component and to determine if they substantially reduced the alpha of the subscale or if any items were redundant based on high interitem correlations. Eight items were deleted due to their suppression of one the three component alpha levels.

A second PCA was performed on the remaining items for both parallel analysis (Horn, 1968) and MAP rules. Parallel analysis suggested the retention of two components and MAP suggested the retention of four components. The same retention criteria as in the first PCA were evaluated and four items were removed

because of complex loadings. Similarly, the same reliability procedures were conducted as before, and ten items were removed due to redundancy.

A third PCA was performed on the remaining items for both parallel analysis and MAP rules. Parallel analysis suggested the retention of two components and MAP suggested the retention of three components. The same retention criteria as in the first and second PCA were evaluated and one item was removed because of a complex loading. Similarly, the same reliability procedures were conducted as before; however, no items were removed due to redundancy.

A fourth and final PCA was performed and yielded a two component solution (i.e. all retention criteria were met) with five items on component one (eigenvalue = 4.90) and four items on component two (eigenvalue = 2.11). These two components accounted for 77.93% of the total item variance. Qualitative analysis of the items supported the two component solution (i.e. which was clearly divided into one component for social situations and the second component for negative moods). Again reliability analyses were run on the remaining items, and in addition item content for each component was qualitatively assessed to ensure the meaningful representation of the construct domain. Cronbach's coefficient alpha was calculated for each component (social situations  $\alpha = .93$  and negative moods  $\alpha = .89$ ).

The exploratory half of the data split, Sample I, measurement model testing was performed on the final set of items to determine which conceptualization best fit the data. Measurement models were compared with a maximum likelihood solution using EQS. Four measurement models were examined, each describing a different

conceptualization of the temptation factor structured that emerged from the principal component analysis. The competing models were:

1. Null (Independent) Model: The null model implies that there were no latent factors and that the items were completely independent. The null model was assumed not to be a substantive a representation of the data but rather was intended to be utilized as a baseline to which to compare the other models.

2. One Factor Model: The one factor model assumed that all items were associated with one latent decision making factor.

3. Uncorrelated Two Factor Model: The uncorrelated two factor model hypothesized each latent factor as two independent decision making constructs.

4. Correlated Two Factor Model: The correlated two factor model hypothesized each latent the factor as two related decision making constructs, allowing the two latent variables to be correlated.

In addition to the  $\chi^2$  and  $\chi^2/\text{df}$  assessment of the fit of the specified models, five different fit indices were calculated for each model: Bentler Comparative Fit Index (CFI), Bentler-Bonnet Non Normed Fit Index (NNFI), Bentler Normed Fit Index (NFI), root mean squared error of approximation (RMSEA), and average absolute squared residual (AASR). The use of several measure of fit is conducted to guard against three possibility of model specification. Evaluation of all of the exploratory models that were examined is summarized in Table 9. Based on these results, the temptation factors best fit the data when they are conceptualized as two separate, ( $\chi^2(1) = 19.19, p < .001$ ) but correlated factors (Model 4). The final model is presented in Figure 5.

Reliability analyses were conducted on the final scales using Sample II. Cronbach's coefficient alpha for the social situations scale was .93 and coefficient alpha for the negative moods scale was .86. In order to confirm the structure of the measurement model developed with Sample I, a confirmatory factor analyses using Sample II was also conducted. The correlated two-factor model provided a good fit to the data, based on the following fit indices:  $\chi^2 (\underline{n} = 152, 62) = 100.69$ ;  $\chi^2/df = 3.87$  ; CFI = .92; NNFI = .90; NFI = .90; RMSEA = .14; and AASR = .05. Evaluation of all of the confirmatory models ( $\chi^2 (1) = 21.31, p < .001$ ) that were examined is summarized in Table 10. The statement wording of the final scale is present in Table 11. The confirmatory model is displayed in Figure 6.

#### Stages of Change for College Student Spiritual Expression

Two staging algorithms were examined in order to determine the most appropriate measure for college student spiritual expression. Stage distributions are presented in Table 12 demonstrating how each of the two staging algorithms classified participants. Table 13 presents the transtheoretical model construct definitions and sample items. Correlation coefficients were calculated for each of the major constructs used to examine the two algorithms including:

- a) Decisional Balance: Intrinsic Pros of Spiritual Expression (IPSE)
- b) Decisional Balance: Extrinsic Pros of Spiritual Expression (EPSE)
- c) Decisional Balance: Cons of Spiritual Expression (CSP)
- d) Confidence: Peer Social Situations (CPSS)
- e) Confidence: Negative Moods (CNM)
- f) Confidence: Positive Moods (CPM)

- g) Temptation: Social Situations (TSS)
- h) Temptation: Negative Moods (TNM)
- i) Religious subscale of the Spiritual Well Being Scale (RWB)
- j) Existential subscale of the Spiritual Well-Being (EWB)
- k) Extrinsic subscale of the Religious Orientation Scale (EROS)
- l) Intrinsic subscale of the Religious Orientation Scale (IROS)

Correlations between all major constructs are present in Table 14. Next, standardized T-scores (i.e.  $M = 50$ ,  $SD = 10$ ) were calculated for IPSE, EPSE, CSP, CPSS, CNM, CPM, TSS, TNM, RWB, EWB, EROS, and IROS. The T-scores were then plotted across the stages of change for each of the two algorithms for the purpose of illustrating the pattern of results that emerged from each combination of variables. The results are shown in Figures 7-16.

Two separate MANOVAs were calculated to examine the mean differences across the categorical stages of change (independent variables) and with IPSE, EPSE, CSP, CPSS, CNM, CPM, TSS, TNM, RWB, EWB, EROS, and IROS as the dependent variables. All MANOVAs were found to be significant at the  $p < .001$ . Follow-up ANOVAs determined which of the dependent variables contributed to any significant differences, while Tukey's HSD compared the means of specific stage pairs on each significant variable.

#### Stage of Change Algorithm 1: One Item

For the first stage of change algorithm participants were placed into one of five stages based on their endorsement of five mutually exclusive alternatives.

Precontemplators reported that they were currently not engaged in spiritual expression

and not intending to in the next six months. Contemplators indicated that they were not currently engaged in spiritual expression, but they intended to in the next six months. Preparers reported that they were currently not engaged in spiritual expression, but they intended to in the next 30 days. Those participants endorsing Action indicated that they were currently engaged in spiritual expression and had been for less than six months, and those endorsing Maintenance indicated that they were currently engaged in spiritual expression for longer than six months.

The algorithm for this stage distribution indicated 29.1% in precontemplation, 13.9% in contemplation, 4.1% in preparation, 1.6 %in action, and 51.3% in maintenance. Of those participants who reported that they were in pre-action stages 61.74% indicated they were in precontemplation, 29.53% indicated contemplation, and 8.72% indicated preparation.

The MANOVA for this one item algorithm was found to be significant, Wilks'  $\Lambda = .37$ ,  $p < .001$ , multivariate  $\eta^2 = .40$ . Follow up ANOVAs indicated significant mean differences between the stages of change for several dependent variables. Overall results, and those of the post hoc tests, are summarized in Table 15.

#### Stage of Change Algorithm 2: Multiple Items

For the second stage of change algorithm participants were placed into one of four stages based on their response pattern to five items. Unlike the single item algorithm where participants self-reported their stage, in this second algorithm participants were first staged by their self report, and then restaged (if necessary) based upon their endorsement of belief in a higher power, and their endorsement of frequency of attendance at spiritual gatherings, frequency of reading spiritual texts, and frequency



of prayer or meditation. Precontemplators reported that they were currently not engaged in spiritual expression and not intending to in the next six months.

Precontemplators also did not report a belief in an existential force nor reading of spiritual texts, prayer and mediation, or attendance at spiritual gatherings.

Contemplators indicated that they were not currently engaged in spiritual expression, but they intended to in the next six months. Contemplators also reported a belief in an existential force but indicated that their reading of spiritual texts, prayer and mediation, or attendance at spiritual gatherings as less than three times per week.

Preparers reported that they might be engaged in some form of spiritual expression, but not meeting full Action criteria (e.g. they may have not endorsement a belief in a higher power, and they reflected and/or read one time per week). Preparers indicated that they intended to express spirituality in the next 30 days. Prepares also reported a belief in an existential force and at least one (but not all) of the following: reading of spiritual texts (three or more times per week), prayer and mediation (three or more times per week), or attendance at spiritual gatherings (one or more times per week).

Those participants endorsing Action indicated that they were currently engaged in spiritual expression for less than six months. Those in Action also reported a belief in an existential force and all of the following: reading of spiritual texts (three or more times per week), prayer and mediation (three or more times per week), or attendance at spiritual gatherings (one or more times per week). Those endorsing Maintenance indicated that they were currently engaged in spiritual expression for longer than six months. Those endorsing Maintenance also reported a belief in an existential force and all of the following: reading of spiritual texts (three or more times per week), prayer

and mediation (three or more times per week), or attendance at spiritual gatherings (one or more times per week). The Action and Maintenance stages were combined due to the low number of participants meeting the behavioral criteria for the stages. The combined stage was termed Action/Maintenance.

The algorithm for this stage distribution indicated approximately 30.7% precontemplation, 13.8% contemplation, 49.2% preparation, and 6.3% action/maintenance. Of those participants who reported that they were in the pre-action stages 32.78% indicated they were in precontemplation, 14.71% indicated contemplation, and 52.51% indicated preparation.

The MANOVA for this multiple item algorithm was found to be significant, Wilks'  $\Lambda = .33$ ,  $p < .001$ , multivariate  $\eta^2 = .46$ . Follow up ANOVAs indicated significant mean differences between the stages of change for several dependent variables. Overall results, and those of the post hoc tests, are summarized in Table 16.

#### Decisional Balance Point

In order to determine the existence of a crossover pattern a plotting of the T-scores of pros and cons of each stage was examined. For the simple, one item algorithm, the crossover occurs at preparation. For the complex, multiple item algorithm, the crossover occurs between contemplation and preparation. Plots of the crossover patterns are presented in Figures 7 and 12.

#### Strong and Weak Principles of Progress

The strong and weak principles of progress were examined using the two staging algorithms. To assess the strong principles of change (i.e. across the stages of change from PC to Action, the maximum increase in the pros is one standard deviation) the

standardized T-score for pros at precontemplation was subtracted from the T-score of pros at action. If the difference was approximately one standard deviation or greater, the strong principle of change was supported. To assess the weak principle of progress (i.e. from PC to Action the maximum decrease in the cons is one-half of a standard deviation) the standardized T-score for cons at action was subtracted from the T-score of cons at contemplation.

For the simple, one item algorithm, the increase of IPROS from precontemplation to action was 11.33 T points or 1.13 SD. The increase of EPROS from precontemplation to action was 6.48 T points or .65 SD. The decrease in the CONS from contemplation to action was 8.85 T points or .89 SD. Based on these findings the strong principle of progress was partially supported and the weak principle of progress was supported. For the complex, multiple item algorithm, the increase of IPROS from precontemplation to action/maintenance was 18.92 T points or 1.89 SD. The increase of EPROS from precontemplation to action/maintenance was 7.02 T points or .70 SD. The decrease in the CONS from contemplation to action/maintenance was 7.74 T points or .74 SD. Based on these findings the strong principle of progress was partially supported, and the weak principle of progress was supported.

For theoretical congruence the two pro scales were collapsed to review the strong principle of progress. For the simple, single item algorithm the increase of the pros from precontemplation to action was 13.50 T points or 1.35 SD. For the complex, multiple item algorithm the increase of the pros from precontemplation to action/maintenance was 15.84 T points or 1.58 SD. Based on these findings the

strong principles of progress were supported for both the simple and complex algorithms.

## Discussion

Traditionally, researchers of mental health and particularly behavior change have devoted little attention to examinations of how religion and spirituality relate to physical and mental health. However, explorations of the relationships between religion and spirituality and health, counseling, and/or psychology in general have begun to increase dramatically over the last few years. The current research inadvertently challenged several traditional misconceptions about the scientific study of spirituality—principally, there exists an inability to scientifically examine elements of spirituality in human behavior, as well as focusing on specific predictions about the behavioral patterns of the expression of spirituality within the college student population. This research was also the first to develop transtheoretical model (TTM) based measure for college student spiritual expression. These new measures were consistent with performance of other validation measures across the stages of change, and displayed patterns similar to established health behaviors that utilize the TTM. Because of the exploratory nature of this study it denotes some intriguing data about the habits of spiritual expression among college students and could serve as a foundation for future areas of evaluation and study for this topic of interest.

### Evaluation of the Stages of Change Algorithms

Given that there were two stage of change algorithms examined, it is useful to explore which of these algorithms will best illustrate college student spiritual expression. A combination of quantitative and qualitative methods were used to judge

whether the single item or multiple items staging algorithm would better demonstrate college student spiritual expression. The algorithms were examined based upon the extent to which they met several evaluation criteria including concurrent validity, discriminate validity, and theoretical consistency.

Concurrent validity was evaluated based on the relationships between stages of change and other measures of spiritual/religious expression, namely the Spiritual Well Being Scale and the Religious Orientation Scale. Each of these measures was expected to show a general increase from precontemplation to action/maintenance stages of change.

Discriminate validity was assessed by evaluating each algorithm's association with current religious affiliation. It was expected that current religious affiliation would have no significant correlation relationship with stage of change.

Theoretical consistency was examined by several criteria that are consistent with the transtheoretical model framework. These criteria included: 1) a crossover pattern between the pros and cons between the contemplation and preparation stages of change; 2) confirmation of strong principle of change; 3) confirmation of weak principle of change; 4) confidence increasing across stages; and 5) temptation decreasing across stages.

The results of these analyses established that the multiple item algorithm was the best measure for stage of change for college student spiritual expression based on the above criteria. A summary of this evaluation is shown in Table 17. The selection of the multiple item algorithm is consistent with current conceptualizations of spiritual expression, that is useful to describe spirituality based on the frequency of a number of

behaviors such as attendance at religious gatherings, meditation or prayer, reading, and belief in a higher power.

### Hypotheses 1

Inconsistent with most previous findings (Velicer et al., 1985), principal components analysis and structural equation modeling determined a three-factor conceptualization of pros and cons best fit the data. These three components accounted for more than 64% of the total item variance across the sample. Although these findings suggest that the pros and cons of decisional balance have a simpler structure than Janis and Mann (1977) suggest, the findings also indicate that positive intrinsic and extrinsic forms of spiritual expression have distinct benefits.

The five-item intrinsic pros scale (displayed in Table 2) represented a combination of inward and personal benefits associated with a spiritual expression. This intrinsic relationship may also be conceptualized with Janis and Mann's decisional balance terminology—utilitarian gains for self and approval from self. The five-item extrinsic pros scale represented a combination of outward and social benefits associated with spiritual expression. Similarly, this extrinsic relationship may also be conceptualized with Janis and Mann's decisional balance terminology—utilitarian gains from others and approval from others. Finally the five-item cons factors included times that reflected incomprehensibility, boringness, and limited time for engaging in spiritual behaviors. Again, the cons may be conceptualized with Janis and Mann's decisional balance terminology—chiefly utilitarian losses for self. These findings suggest traditional conceptualizations of religious behavior (i.e. intrinsic and extrinsic factors) are central to a college populations' decision to engage in spiritual expression.

## Hypothesis 2

Congruent with the finding of Prochaska et al. (1994), the cons of spiritual expression outweighed the pros of spiritual expression (both intrinsic and extrinsic) in the precontemplation stage, whereas the reverse was found to be true in the action and maintenance stages. The decisional balance point was found to occur between the contemplation and preparation stages. In addition, the strong principles of progress was partially and the weak principles of progress were supported using this measure. Prochaska (1994) used the strong and weak principles of progress to express a relationship between the pros and cons. Both the strong and weak principles of progress were supported (using the collapsed pros composite). Actually, the pros of spiritual expression increased more than twice as much as the cons of spiritual expression decreased. Similar to past findings for other behaviors utilizing the TTM, the intrinsic and extrinsic pros demonstrated a relatively small correlation with the cons,  $r = -.01$  and  $r = .15$  respectively (Prochaska & Velicer, 1997; Prochaska et al. 1994).

## Hypothesis 3

The pattern of relationship between the pros and cons (displayed in Figure 12) was similar to that found for the acquisition of other health behaviors (i.e. exercise, stress management) as opposed to those found for the cessation of unhealthy behaviors (i.e. smoking, alcohol). Both the intrinsic and extrinsic pros increased from precontemplation to action/maintenance, while the cons decreased from precontemplation to action/maintenance. The traditional pattern is to observe a decrease in the cons from precontemplation to maintenance or observe a plateau

subsequent to an increase from precontemplation to preparation (Prochaska et al. 1994). This may indicate that for college student spiritual expression the acquisition of spiritually expressive behaviors (e.g. attending spiritual gathering or prayer and meditation) indicate a readiness to change.

#### Hypothesis 4

Previous TTM research has found situational confidence and temptation measures to have the same structure (Velicer et al;1990); however, the current study observed a difference in the structure of the situational confidence and temptation measures. Research on smoking cessation has typically found three factors reflecting the most common types of tempting situations that is negative affect, positive social situation, and habituation or addiction (Velicer et al., 1990). The measures for the confidence subscales indicate a three factors structure; however, they represent a different variation of the traditional three situational concerns. Peer social situations was a clearly identifiable component comprised of four items. Negative moods (affect or emotions) was the second component, which was comprised of five items. The third component, identified as positive moods (affect or emotions), was comprised of four items. The third component represents a variation from the established situational concerns, but helps to clearly distinguish the types of affective experiences college students are confident that they will be able to express spiritual behaviors. The addiction/habituation constructs does not make much sense for this behavior and no items were included in the measure. The measures for the temptation subscales indicate a two-factor structure. However, it nearly represents the three traditional situational concerns (i.e. negative affect, positive social situation, and habituation or



addiction). Again, social situations was a clearly identifiable component comprised of five items. Negative moods (affect or emotions) was the second component, which was comprised of four items.

#### Hypothesis 5

Both the situational confidence and temptation constructs displayed sensitivity to changes involved in progression across the stages of change. Situational confidence was lowest at precontemplation and increased across all stages being highest at action/maintenance. This pattern occurred for all factors (peer social situations, negative moods, and positive moods. Temptations were higher at precontemplation and decreased across the stages and were lowest at action/maintenance. There was a steady decrease in the social situation factor across all stages, and a steady decline in negative moods from contemplation through the remainder of the stages.

#### Hypothesis 6

The data suggested (as displayed in Table 14) that there were distinct patterns for response for those identified as intrinsic as opposed to extrinsic forms of spiritual expression. As a participant increased endorsement of intrinsic religious orientation scale (IROS), he or she increased his or her endorsement of the decisional balance intrinsic pros as evidenced by the strong positive correlation (proportion of variance accounted for .59). As a participant increased endorsement of IROS, he or she increased his or her endorsement of the decisional balance extrinsic pros as evidenced by the positive correlation (proportion of variance accounted for .22). There was no significant relationship between IROS and decisional balance cons. Similarly, as a participant increased endorsement of IROS he or she increased his or her endorsement

of the confidence subscales as evidenced by the positive correlations (proportions of variance accounted for .30, .40, and .32 respectively). As a participant increased endorsement of IROS, he or she decreased his or her endorsement of the temptation subscales as evidenced by the negative correlations (proportions of variance accounted for .03 and .05 respectively). Scores of intrinsic religious orientation increased across the stages of change from precontemplation to action/maintenance.

As a participant increased endorsement of extrinsic religious orientation scale (EROS), he or she increased his or her endorsement of the decisional balance intrinsic pros as evidenced by the positive correlation (proportion of variance accounted for .02). As a participant increased endorsement of EROS, he or she increased his or her endorsement of the decisional balance extrinsic pros as evidenced by the positive correlation (proportion of variance accounted for .15). As a participant increased endorsement of EROS, he or she increased his or her endorsement of the decisional balance cons evidenced by the positive correlation (proportion of variance accounted for .09). Similarly, as a participant increased endorsement of EROS, he or she increased his or her endorsement of the confidence positive moods and negative moods subscales as evidenced by the positive correlations (proportions of variance accounted for .02, and .03 respectively). There was no relationship between EROS and peer social situations. As a participant increased endorsement of EROS, he or she increased his or her endorsement of the temptation social situation subscales as evidenced by the positive correlations (proportions of variance accounted for .02). There was no relationship between EROS and temptation negative moods. There was no significant relationship between EROS and stage of change stage of change.

## Limitations

There exist limitations with all research that influences scope of applicability, as well as the depth of conclusions that can be drawn. The limitations of this research are concerned with the theoretical and philosophical concerns introduced with the study of religion, spirituality, and /or faith. Other limitations involve methodological procedures, which govern scope applicability.

Miller and Thoresen (2003) described two major assumptions that have contributed to lack of the study of spirituality. The researchers note that there is the assumption that spirituality cannot be studied scientifically, and the assumption that spirituality should not be studied scientifically. The first of these two assumptions is refuted by the fact there is a large and growing body of research that already exists for the study of spiritual phenomena (e.g. Journal for the Scientific Study of Religion). There also exists several professional organizations, subgroups of professional organizations, and special interest groups that are devoted to the study of spirituality and psychology (e.g. APA division 36 and the Society for Behavioral Medicine). There are two main arguments asserting that spirituality should not be studied. Some argue that spirituality is immaterial and beyond the scope of empirical study. And still others argue that science, by definition, is incapable of study of studying spirituality. Although there are several scientific and philosophical reasons to be skeptical of the study of religion and spirituality, one might note that science and particularly psychotherapy has a long history of attempting to examine seemingly immaterial phenomenon (e.g. emotional states and complex cognitive processes). When the current research examined the staging profiles of the respondents elements of

observable, behavioral expression of spirituality were utilized. Granted, the whole of spirituality, including cognitive, emotional, expressive, relational and supernatural elements, cannot be completely appreciated in behavioral terms, yet there still exists important insights that can be gleaned from the examination of behavioral phenomenon.

The use of self-report data may introduce several possible issues of bias. Although it makes sense to simply ask college students to report their behaviors and attitudes they may not report what is perceived to be socially inappropriate or undesirable. This may take place with the study of spirituality given that 95% of Americans profess a belief in God or a higher power, and nine out of ten report praying (as many as 75% report praying on a daily basis) (Gallup and Lindsay, 1999). When a respondent has a behavior or attitude that is different from the perceived norm, a source of error may be introduced. Although measures were taken to avoid this bias one cannot be certain that limited bias was not included. Although not specially discussed here, Hill and Paragement (2003) propose alternatives to self-report measures when measuring religion and spirituality.

In addition, much of the measures of spirituality have been geared to members of Judeo-Christian traditions, and more specifically Protestants. The measures used in the current research are no different from this norm. Although steps were taking in the wording of items and the presentation of general instructions elements of cultural insensitivity and domain specific ignorance unfortunately may have occurred. Hill and Paragement (2003) note that there is a need for cultural sensitivity when attempting to modify measures for use beyond the Judeo-Christian populations, and

the current study attempting to make these sorts of modifications to include not non-western religions but also to be inclusive of spiritual traditions whether religious or non-religious in nature.

### Contributions and Future Directions

The current study serves as a method to enhance the understanding of the relationship between spirituality and psychology. There are thought to be three main ways in which this research will contribute to the current study of psychology and spirituality. First, this current study resulted in an additional foundation of research, which should encourage further exploration, and validation of research concerned with the physical and mental health benefits of spiritual expression. Secondly, the research has provided additional evidence of the applicability, feasibility, and accessibility of the TTM to a new “problem behaviors.” Applying the TTM to spiritual expression adds to research indicating the application of the model to approximately 37 problem behaviors further validating the breadth of the model. The Processes of Change should be added in new research. Thirdly, the current study serves as preliminary data, which should aid in indicating ways of integrating spirituality into mental health treatments and applied settings. Specifically, this study may serve as a basis of knowledge on ways to formulate TTM principles and methods, with a spiritual focus, into the treatment of college students in clinical settings.

### Conclusions

Although spiritual expression is starkly different from the original transtheoretical model target behavior, smoking cessation, this research finds that the TTM serves as a way to appropriately conceptualize college student spiritual expression. In addition

this research finds that spiritual expression parallels findings for other behaviors. Utilizing the TTM to examine the patterns of college student spiritual expression takes a different way of thinking about spirituality. Spirituality must be conceptualized as a phenomenon that is capable of being subjected to empirical investigation. Broadly, the TTM serves as an all-inclusive model of change, which takes into account contextual, temporal, and motivational variables that explain and propel the change process. The TTM successfully illustrates progression through stages by examining an individual's spiritually expressive behavior and attitudes. In addition, the TTM framework incorporates the relapse process as a common part of the overall change process, not as a type of failure. This conceptualization seems to fit the behavioral patterns that are common to college student spiritual expression. Future research combining the TTM and spirituality will focus on the utility of the model within therapy contexts. Because the TTM serves as a unifying model that can integrate distinct cognitive and behavioral intervention into a single flexible framework, it will be able to assess an individual's readiness to receive a specific intervention at a specific time.

Table 1

Demographic Information Samples and Percents

Variable		Total Sample		URI		Miami	
		n	%	n	%	n	%
<b>Gender</b>							
	Female	224	70.2	100	76.5	123	66.8
	Male	92	28.8	31	23.5	61	33.2
<b>Ethnicity</b>							
	American Indian or Alaskan Native	8	2.5	5	3.7	3	2.0
	Asian	4	1.3	1	0.7	3	2.0
	African American	11	3.4	4	3.0	7	4.7
	African, Cape Verde, Haitian	4	1.3	1	0.7	3	2.0
	Hawaiian or Pacific Islander	2	0.6	0	0.0	2	1.4
	Caucasian	297	93.1	125	93.3	172	95.0
	South American	4	1.3	2	1.5	2	1.3
	Middle Eastern	1	0.3	0	0.0	1	0.7
	Indian (Indian sub-continent)	0	0.0	0	0.0	0	0.0
	Other	10	3.1	5	3.7	5	2.7
	Not Sure	1	0.3	0	0.0	1	0.5
<b>Marital Status</b>							
	Married	4	1.3	3	2.3	1	0.5
	Not married but living with partner	12	3.8	9	6.8	3	1.6
	Not married	291	91.2	117	87.3	174	94.6
	Separated	1	0.3	0	0.0	1	0.5
	Divorced	0	0.0	0	0.0	0	0.0
	Widowed	0	0.0	0	0.0	0	0.0
	Not Sure	8	2.5	3	2.2	5	2.7
<b>Athlete</b>							
	No	217	68.0	111	83.5	106	58.6
	Varsity	11	3.4	3	2.3	8	4.4
	Club	20	6.3	7	5.3	13	7.2
	Intramural	65	20.4	11	8.3	54	29.2
<b>Greek</b>							
	No	219	68.7	98	73.7	121	65.8
	Fraternity	21	6.6	7	5.3	14	7.6
	Sorority	50	15.7	15	11.3	35	19.0
	Academic or business	16	5.0	7	5.3	9	4.9
	Both social and academic or business	11	3.4	6	4.5	5	2.7
<b>Class</b>							
	Freshman	64	20.1	1	0.8	63	34.2
	Sophomore	113	35.4	57	42.9	56	30.4
	Junior	92	28.8	56	42.1	36	19.6
	Senior	46	14.4	18	13.5	28	15.2
	Graduate	2	0.6	1	0.8	1	0.5
<b>Sexual Orientation</b>							
	Bisexual	3	0.9	1	0.8	2	1.1
	Homosexual	3	0.9	1	0.8	2	1.1
	Heterosexual	308	96.6	129	97.0	179	97.8
	Don't Know	2	0.6	2	1.5	0	0.0
<b>Spiritual Orientation</b>							
	Atheist	11	3.4	6	4.5	5	2.7
	Agnostic	63	19.7	32	24.2	31	16.9
	Spiritual	201	63	70	53.0	131	71.6
	Not Sure	40	12.5	24	17.9	16	8.6

Table 2

## Total Sample and Subgroup Characteristics and Comparisons

Variable	Mean (SD)			df	F	$\eta^2$
	Total Sample ( $n = 317$ )	URI Subgroup ( $n = 133$ )	Miami Subgroup ( $n = 184$ )			
Age (years)	19.91 (1.48)	20.44 (1.42)	19.53 (1.41)	1, 315	32.49***	.09
Religious Orientation Scale	54.39 (11.46)	52.47 (12.64)	55.77 (10.36)	1, 306	19.64***	.06
Intrinsic Subscale	25.30 (8.59)	22.82 (7.68)	27.09 (8.79)	1, 304	2.61	.01
Extrinsic Subscale	29.16 (6.29)	29.84 (6.45)	28.67 (6.15)	1, 297	6.15*	.02
Spiritual Well-Being Scale	85.24 (17.17)	81.54 (15.93)	87.98 (17.58)	1, 301	11.33***	.04
Religious Subscale	40.04 (12.73)	37.19 (11.67)	42.10 (13.10)	1, 303	2.66	.01
Existential Subscale	45.21 (8.04)	44.34 (7.96)	45.85 (8.05)	1, 290	10.34***	.03

Note: \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$



Table 3

Fit Indices for Exploratory Decisional Balance Models

<i>Model</i>	$\chi^2$	<i>df</i>	$\chi^2/df$	CFI	NNFI	NFI	RMSEA	AASR
Model 1: Null	1292.38	105	12.31					
Model 2: One Factor	512.86	90	5.70	.64	.59	.60	.17	.09
Model 3: Uncorrelated Three-Factor	211.62	90	2.35	.90	.88	.84	.092	.131
Model 4: Correlated Three-Factor	153.42	87	1.76	.94	.93	.88	.069	.047

Note: *df* = degrees of freedom; CFI = comparative fit index; NNFI = Bentler-Bonnet Non Normed Fit Index; NFI = Bentler-Bonnet Normed Fit Index; RMSEA = Root Mean Squared Error of Approximation; AASR = Average Absolute Squared Residual.

Table 4

Fit Indices for Confirmatory Decisional Balance Models

<i>Model</i>	$\chi^2$	<i>df</i>	$\chi^2/df$	CFI	NNFI	NFI	RMSEA	AASR
Model 1: Null	1053.88	105	10.03					
Model 2: One Factor	403.70	90	4.49	.67	.61	.62	.155	.090
Model 3: Uncorrelated Three-Factor	198.56	90	2.21	.89	.87	.81	.091	.113
Model 4: Correlated Three-Factor	156.74	87	1.80	.93	.91	.85	.074	.058

Note: *df* = degrees of freedom; CFI = comparative fit index; NNFI = Bentler-Bonnet Non Normed Fit Index; NFI = Bentler-Bonnet Normed Fit Index; RMSEA = Root Mean Squared Error of Approximation; AASR = Average Absolute Squared Residual.

Table 5

Item Description for 15-item Decisional Balance Scale

Item
<i>Intrinsic Pros</i>
11. I have a sense of purpose in life when I express my spirituality.
15. Prayer, meditation, or reflection brings my life into harmony.
24. I am closer to God when I express my spirituality.
32. I feel at peace during religious/spiritual gatherings.
39. I will have a better life if I express my spirituality.
<i>Extrinsic Pros</i>
6. My parents approve of my spiritual expression.
8. My friends approve of my spiritual expression.
21. Many people around me pray.
31. Many people around me go to religious/ spiritual gatherings.
56. Many people around me believe in God.
<i>Con</i>
12. It is boring to me to go to religious/spiritual gatherings.
25. I don't have time to read spiritual texts.
27. I find it boring to read spiritual texts.
29. I don't have time to go to religious/spiritual gatherings.
30. I do not understand the meaning of spiritual texts.

Table 6

Fit Indices for Exploratory Situational Confidence Models

<i>Model</i>	$\chi^2$	<i>df</i>	$\chi^2/df$	CFI	NNFI	NFI	RMSEA	AASR
Model 1: Null	1592.90	78	20.42					
Model 2: One Factor	628.69	65	9.67	.63	.55	.61	.248	.093
Model 3: Uncorrelated Three-Factor	208.29	65	3.20	.91	.89	.87	.125	.267
Model 4: Correlated Three-Factor	89.47	62	1.44	.98	.98	.94	.056	.030
Model 5: Hierarchical Model	89.47	62	1.44	.98	.98	.94	.056	.030

Note: *df* = degrees of freedom; CFI = comparative fit index; NNFI = Bentler-Bonnet Non Normed Fit Index; NFI = Bentler-Bonnet Normed Fit Index; RMSEA = Root Mean Squared Error of Approximation; AASR = Average Absolute Squared Residual.

Table 7

## Fit Indices for Confirmatory Situational Confidence Models

<i>Model</i>	$\chi^2$	<i>df</i>	$\chi^2/df$	CFI	NNFI	NFI	RMSEA	AASR
Model 1: Null	1453.15	78	18.63					
Model 2: One Factor	503.59	65	7.75	.68	.62	.65	.223	.084
Model 3: Uncorrelated Three-Factor	200.97	65	3.09	.90	.88	.86	.124	.260
Model 4: Correlated Three-Factor	90.84	62	1.45	.98	.97	.94	.058	.040
Model 5: Hierarchical Model	90.84	62	1.45	.98	.97	.94	.058	.040

Note: *df* = degrees of freedom; CFI = comparative fit index; NNFI = Bentler-Bonnet Non Normed Fit Index; NFI = Bentler-Bonnet Normed Fit Index; RMSEA = Root Mean Squared Error of Approximation; AASR = Average Absolute Squared Residual.

Table 8

Item Description for 13-item Situational Confidence Scale

Item
<i>Peer Social Situations</i>
36. With friends in a dining.
37. With friends in class.
46. When I am with fraternity brothers or sorority sisters.
50. With friends just hanging out.
<i>Negative Moods</i>
12. When I feel down or depressed.
19. When no one understands me.
23. When things are not going my way.
27. When I feel angry or upset.
34. After an argument with a family member.
<i>Positive Mood</i>
1. When I feel healthy and energetic.
2. When I feel proud of my accomplishments.
4. When I am happy or in a good mood.
5. When I am relaxed.

Table 9

## Fit Indices for Exploratory Situational Temptation Models

<i>Model</i>	$\chi^2$	<i>df</i>	$\chi^2/df$	CFI	NNFI	NFI	RMSEA	AASR
Model 1: Null	1123.09	36	31.20					
Model 2: One Factor	396.90	27	14.70	.66	.55	.65	.297	.103
Model 3: Uncorrelated Two-Factor	113.51	27	4.20	.92	.89	.90	.114	.143
Model 4: Correlated Two-Factor	93.32	26	3.59	.94	.91	.92	.129	.043

Note: *df* = degrees of freedom; CFI = comparative fit index; NNFI = Bentler-Bonnet Non Normed Fit Index; NFI = Bentler-Bonnet Normed Fit Index; RMSEA = Root Mean Squared Error of Approximation; AASR = Average Absolute Squared Residual.

Table 10

Fit Indices for Confirmatory Situational Temptation Models

<i>Model</i>	$\chi^2$	<i>df</i>	$\chi^2/df$	CFI	NNFI	NFI	RMSEA	AASR
Model 1: Null	1021.09	36	28.36	—	—	—	—	—
Model 2: One Factor	314.06	27	11.63	.71	.61	.69	.271	.109
Model 3: Uncorrelated Two-Factor	121.00	27	4.48	.91	.87	.88	.155	.148
Model 4: Correlated Two-Factor	100.69	26	3.87	.92	.90	.90	.141	.054

Note: *df* = degrees of freedom; CFI = comparative fit index; NNFI = Bentler-Bonnet Non Normed Fit Index; NFI = Bentler-Bonnet Normed Fit Index; RMSEA = Root Mean Squared Error of Approximation; AASR = Average Absolute Squared Residual.



Table 11

Item Description for 9-item Situational Temptation Scale

Item
<i>Social Situations</i>
36. With friends in a dining.
37. With friends in class.
45. When I am with people from a different ethnic background.
52. When I am with others from the same ethnic background.
55. When I am with strangers.
<i>Negative Moods</i>
10. After an argument with friends or a significant other.
12. When I feel down or depressed.
27. When I feel angry or upset.
29. When I feel I need a lift.

Table 12

Stage Distributions Across the Two Algorithms

Staging Algorithm	Stage of Change				
	PC	C	PR	A	M
Algorithm 1 (Single item)					
Percent in Stage	29.1	13.9	4.1	1.6	51.3
Sample Size	92	44	13	5	162
Algorithm 2 (Incorporating Behavior)					
Percent in Stage	30.7	13.8	49.2	6.3*	*
Sample Size	98	44	157	20*	*

Note: PC = Precontemplation; C = Contemplation; PR = Preparation; A = Action; M = Maintenance; \* Action and Maintenance are combined.

Table 13

Transtheoretical Model Construct Definitions and Sample Items for Spirituality Expression

<u>TTM Construct</u>	<u>Definition</u>	<u>Sample Item</u>
<u>Decisional Balance</u>		
Intrinsic Pros	The pros and cons of spiritual expression Essential internal advantages or benefits	I feel at peace during religious/spiritual gatherings. Many people around me believe in God. I find it boring to read spiritual texts.
Extrinsic Pros Cons	External advantage or benefit The drawbacks and disadvantages	
<u>Situational Confidence</u>		
Peer Social Situations	Measure of confidence in situations in which an individual has an opportunity to express her or his spirituality Situations for college students which involve their peers in a social setting	With friends in the dining hall.
Positive Moods Negative Moods	Positive situations in which a light mood is reflected Situations in which negative moods are expressed	When I feel healthy and energetic. When I feel down or depressed.
<u>Situational Temptations</u>		
Social Situations Negative mood	A measure of the amount of temptation a college student might feel to not express her or his spirituality Situations for college students that are considered social Situations in which negative moods are expressed	With friends in class. When I feel angry or upset.

Table 14

## Correlations Between All Major Constructs

	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
<b>DCBL</b>													
1. Intrinsic Pros	.49**	-.01	.42**	.65**	.58**	-.06	-.28**	.77**	.13*	.74**	.21**	.63**	.62**
2. Extrinsic Pros		.15**	.28**	.39**	.35**	.00	-.17**	.47**	.39**	.48**	.19**	.30**	.32**
3. Cons			-.06	.02	.02	.20**	.11	-.08	.30**	-.06	-.15**	-.05	-.03
<b>Confidence</b>													
4. Peer Social				.53**	.46**	-.25**	-.16**	.55**	-.01	.41**	.10	.40**	.38**
5. Positive Moods					.63**	-.09	-.17**	.63**	.13*	.60**	.12	.52**	.50**
6. Negative Moods						-.10	-.28**	.57**	.18**	.56**	.07	.44**	.45**
<b>Temptations</b>													
7. Social Situation							.40**	-.16**	.13*	-.16**	-.08	-.12*	-.13*
8. Negative Moods								-.23**	.01	-.28**	-.17**	-.19**	-.22**
<b>ROS</b>													
9. Intrinsic									.17**	.81**	.23**	.68**	.66**
10. Extrinsic										.10	-.13*	.04	.08
<b>SWB</b>													
11. Religious											.33**	.63**	.63**
12. Existential												.17**	.16**
<b>Stage of Change</b>													
13. Stage													.94**
14. Stage 2													

\* p&lt;.05; \*\*p&lt;.01

Table 15

(M)ANOVA and Tukey Follow -Up Results Across Stage of Change for Algorithm 1

Algorithm 1 – Single Item Spiritual Expression † (Wilks' $\Lambda = .37, p < .001, \eta^2 = .40$ )									
Source	Stage Mean ( <u>SD</u> )					df	F	$\eta^2$	Tukey's HSD ( $p < .05$ )
	PC	C	PR	A	M				
I. Pros	2.02 (.98)	3.21 (.68)	3.13 (.88)	3.00 (.52)	3.86 (.90)	4, 227	46.66***	.45	PC<C<M PC<PR PC<M
E. Pros	2.06 (.78)	2.54 (.75)	2.53 (1.10)	2.55 (1.48)	2.84 (.95)	4, 227	8.30***	.13	
Cons	2.20 (.78)	2.48 (.60)	2.22 (.70)	1.70 (.66)	2.23 (.79)	4, 227	1.37	.02	
PSS Conf.	1.57 (.89)	1.95 (.74)	2.02 (.88)	1.69 (.80)	2.53 (1.08)	4, 227	11.33***	.17	PC = C<M
NM Conf.	2.50 (1.15)	3.03 (.84)	3.13 (.97)	2.75 (.19)	3.70 (.94)	4, 227	16.52***	.23	PC = C<M
PM Conf.	2.32 (1.23)	3.09 (.80)	3.67 (.85)	2.75 (.54)	3.81 (.96)	4, 227	24.23***	.30	PC<C<M PC<PR
SS Tempt.	3.01 (1.64)	3.27 (.95)	2.89 (1.33)	3.45 (1.72)	2.66 (1.10)	4, 227	1.97	.03	
NM Tempt.	2.63 (1.33)	2.41 (.90)	2.56 (1.00)	2.88 (1.30)	2.04 (1.05)	4, 227	3.50**	.06	PC<M
RWB	28.86 (11.04)	36.03 (9.33)	34.00 (9.19)	42.25 (7.72)	47.81 (9.87)	4, 227	40.70***	.42	PC<C PC=C=PR<M C<M
EWB	45.35 (8.54)	41.22 (7.06)	41.56 (7.63)	48.75 (5.38)	46.79 (7.63)	4, 227	3.93**	.07	
IROS	17.08 (5.64)	23.47 (5.63)	21.89 (4.86)	24.75 (5.56)	30.82 (6.74)	4, 227	55.86***	.50	PC<C PC=C=PR<M PC<C
EROS	26.92 (6.57)	31.75 (4.96)	29.56 (5.34)	30.50 (3.51)	28.884 (6.21)	4, 227	3.65**	.06	
Overall Pros	21.01 (7.43)	28.27 (5.99)	29.31 (7.26)	30.60 (10.69)	33.16 (7.47)	4, 306	39.80***	.34	PC<C<M PC<PR=A

Overall	28.59	34.84	38.55	34.00	43.49	4,271	29.58***	.30	PC<C<M
Conf.	(11.50)	(6.87)	(7.09)	(7.35)	(10.16)				PC<PR
Overall	24.94	26.22	24.17	28.75	21.30	4,294	4.21**	.05	PC=C<M
Tempt.	(11.75)	(7.16)	(7.02)	(9.43)	(7.27)				

Note: I. Pros = Intrinsic Pros; E. Pros = Extrinsic Pros; PSS Conf. = Peer Social Situations Confidence; NM Conf. = Negative Moods Confidence; PM conf. = Positive Moods Confidence; SS Tempt. = Social Situation Temptations; NM Tempt. = Negative Moods Temptations; RWB = Religious Well-Being; EWB = Existential Well-Being; IKOS = Intrinsic Religious Orientation Scale; EROS = Extrinsic Religious Orientation Scale; † variations in sample size due to missing data; \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .



Overall	28.95	35.08	41.88	51.00	3,275	40.42***	.31	PC<C<PR<A/M
Conf.	(11.60)	(6.93)	(9.80)	(9.68)				
Overall	24.53	26.53	22.28	16.94	3,298	6.13***	.06	PC=C<PR=A/M
Tempt.	(11.70)	(6.97)	(7.18)	(7.63)				

Note: I. Pros = Intrinsic Pros; E. Pros = Extrinsic Pros; PSS Conf. = Peer Social Situations Confidence; NM Conf. = Negative Moods Confidence; PM conf. = Positive Moods Confidence; SS Tempt. = Social Situation Temptations; NM Tempt. = Negative Moods Temptations; RWB = Religious Well-Being; EWB = Existential Well-Being; IROS = Intrinsic Religious Orientation Scale; EROS = Extrinsic Religious Orientation Scale; † variations in sample size due to missing data; \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .



Table 17

Summary of the Evaluation Criteria for the Two Staging Algorithms

	Staging Algorithm	
	1	2
<b>Concurrent Validity</b>		
Spiritual Well Being Scores Lower in Earlier Stages	Y/N	Y/N
Religious Orientation Scores Lower in Earlier Stages	Y	Y/N
<b>Discriminate Validity</b>		
Uncorrelated with Current Religious Affiliation	N	N
<b>Theoretical Consistency</b>		
Pros & Cons Cross Over	Y	Y
Strong Principal of Change		
I. Pros	Y	Y
E. Pros	N	N
Weak Principal of Change	Y	Y
Confidence: Increasing across stages	Y	Y
Temptation: Decreasing across stages	N	Y

Figure 1

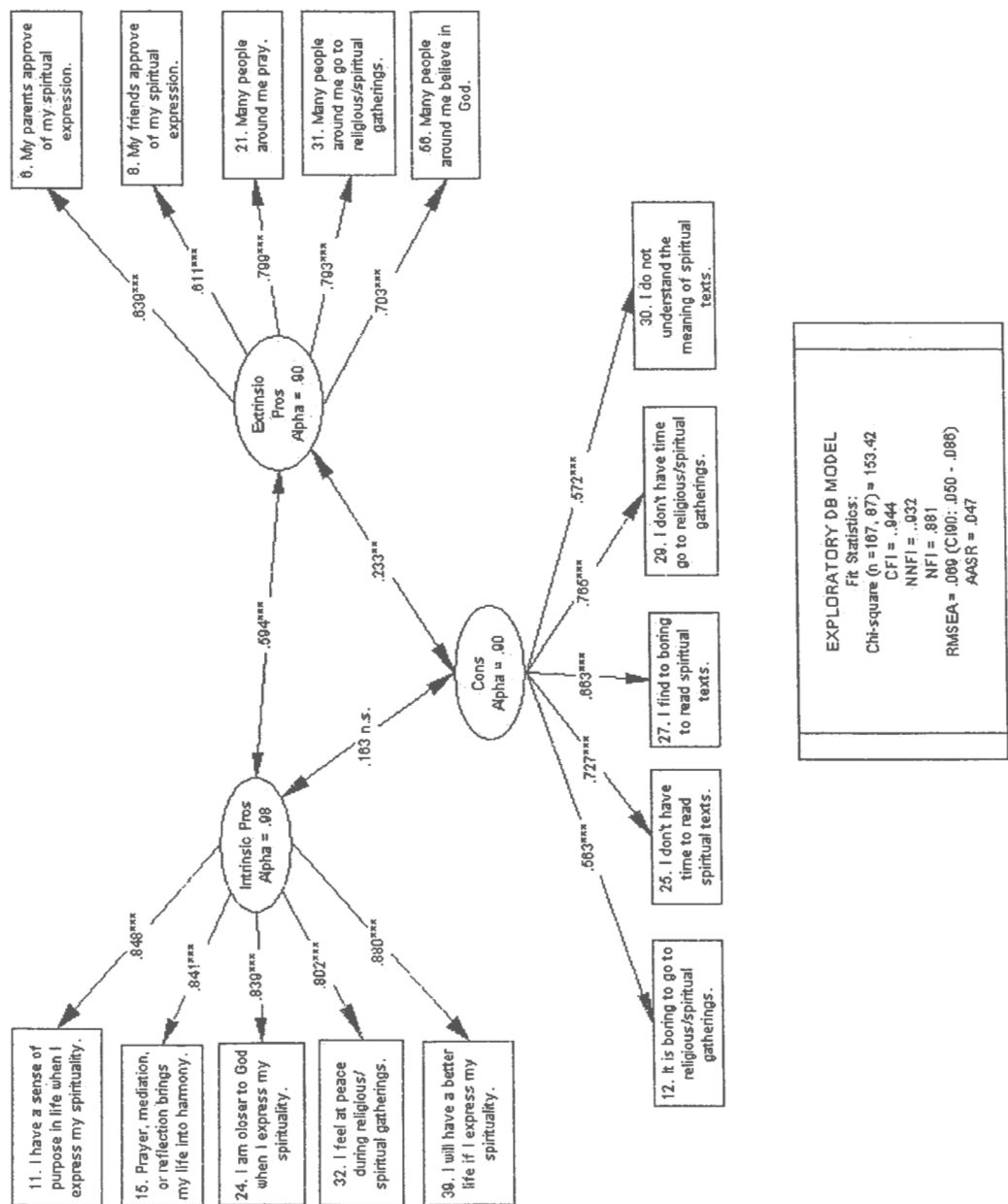
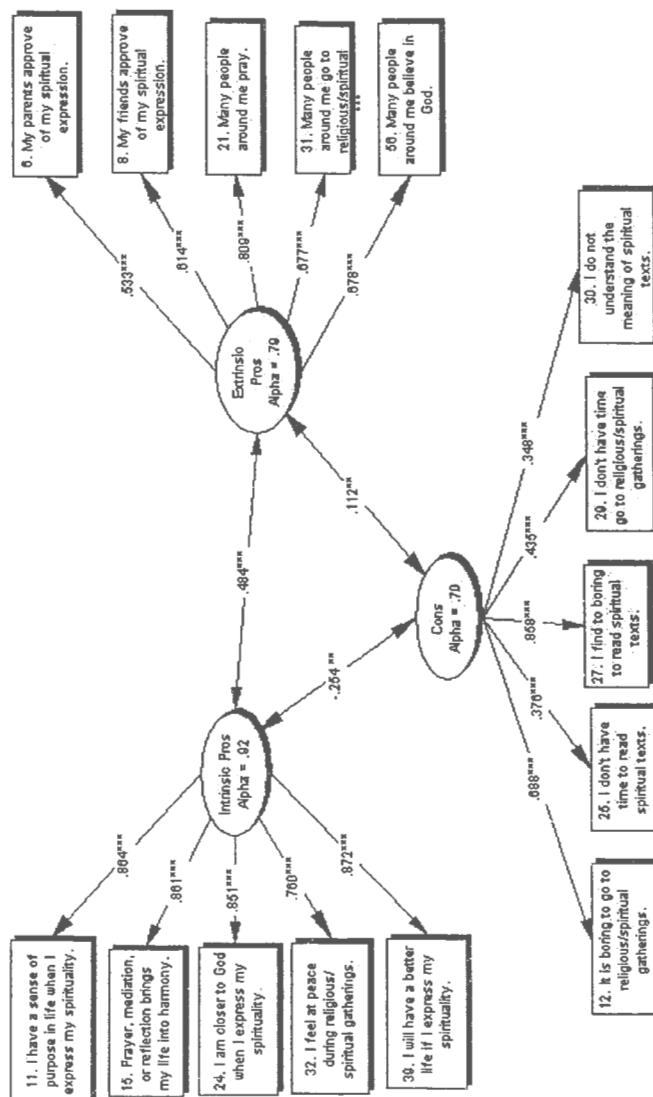


Figure 2



**CONFIRMATORY DB MODEL**  
 Fit Statistics:  
 Chi-square (n = 152, 87) = 158.74  
 CFI = .927  
 NNFI = .911  
 NFI = .851  
 RMSEA = .074 (CI90: .055 - .092)  
 AASR = .068

Figure 3

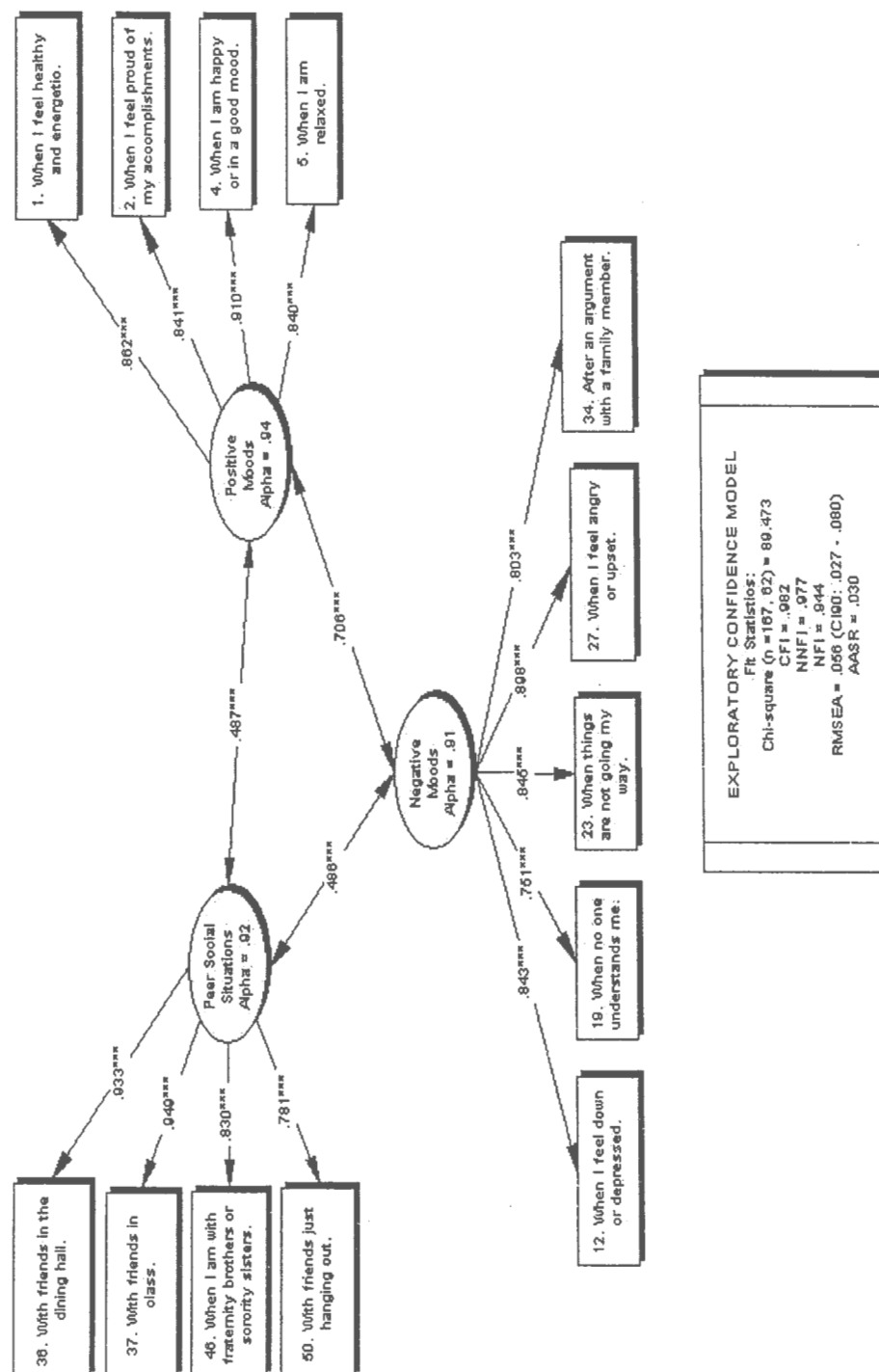


Figure 4

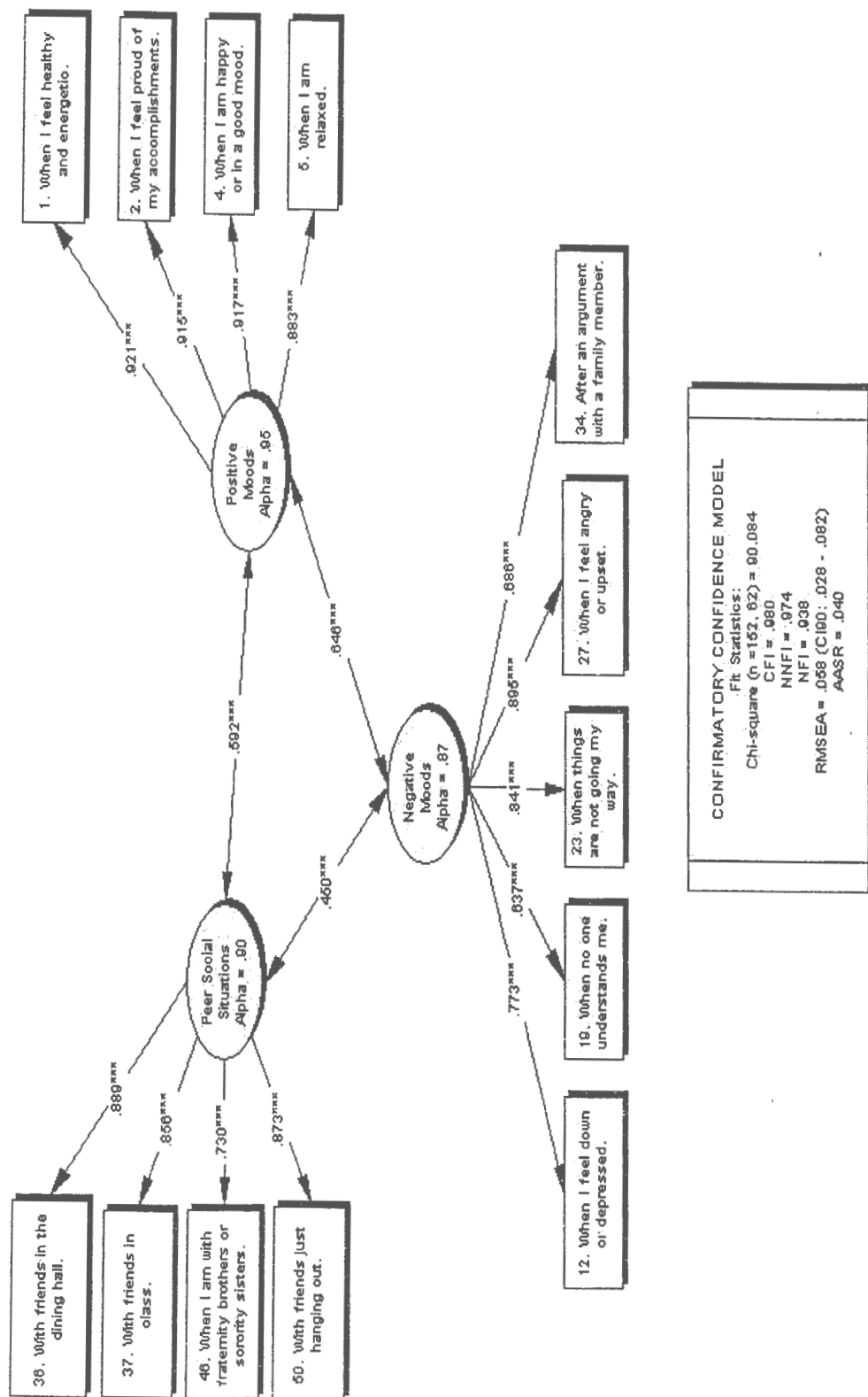


Figure 5

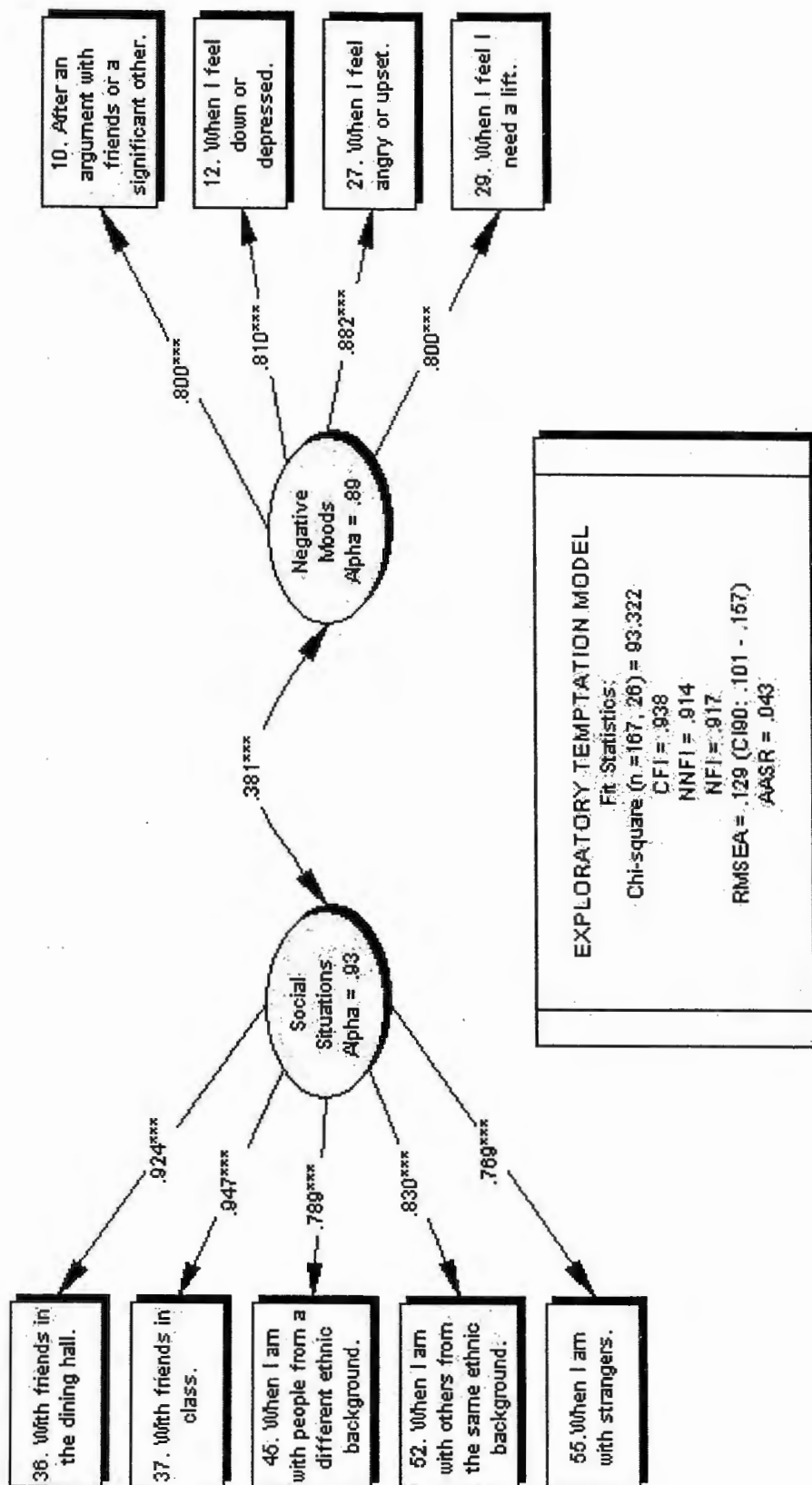


Figure 6

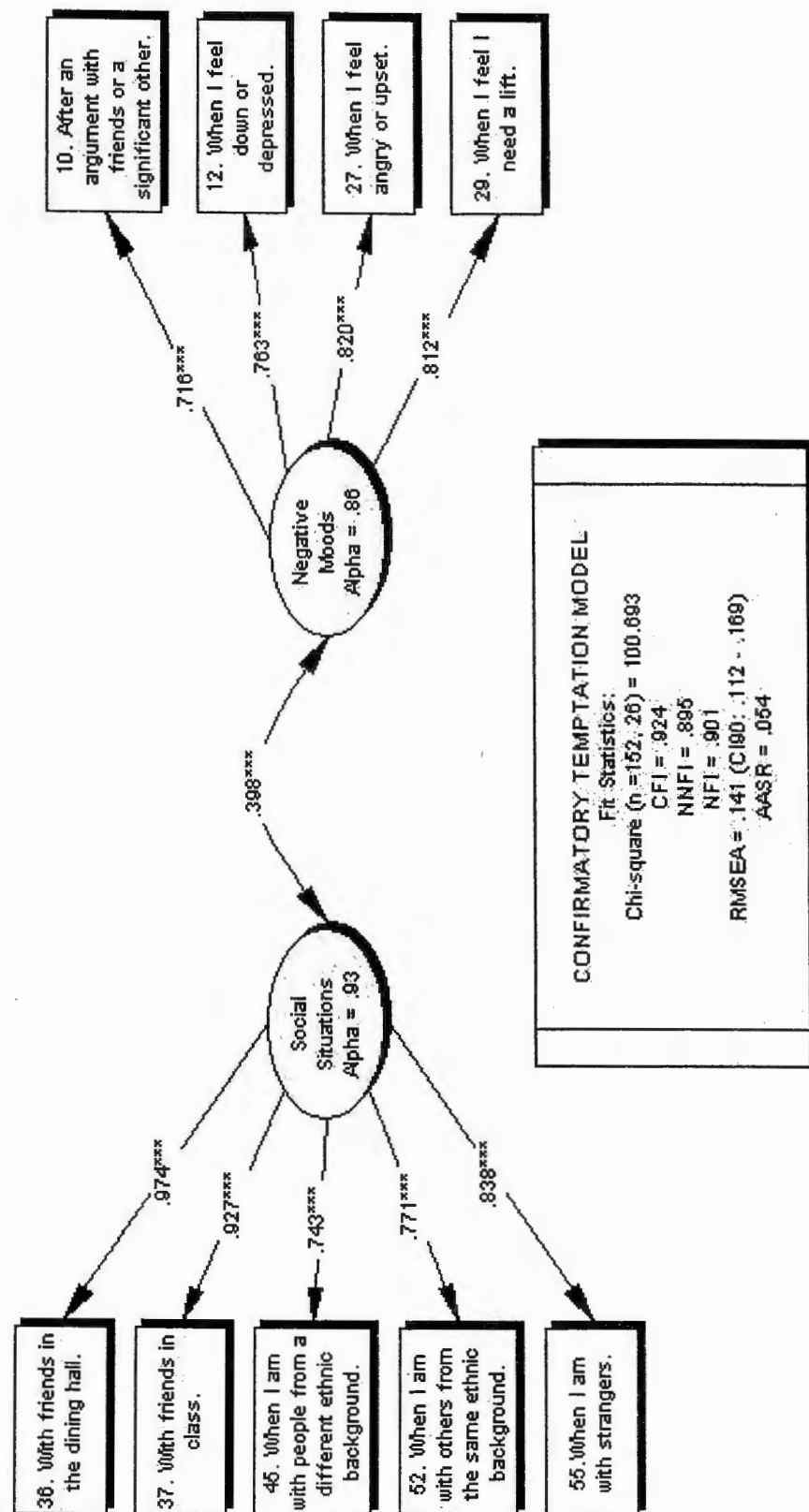


Figure 7

Comparing T-Scores on Decisional Balance Scales Across Stage (Single Item Staging Algorithm)

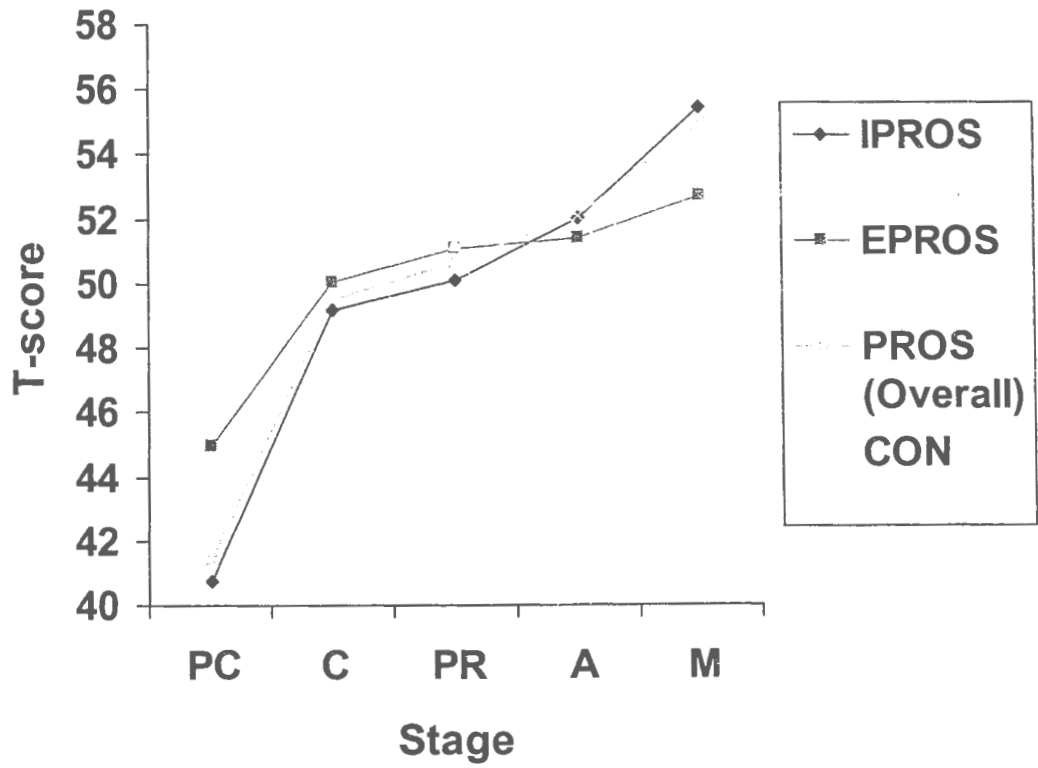




Figure 8

Confidence Subscales by Stages: Single Item Staging Algorithm

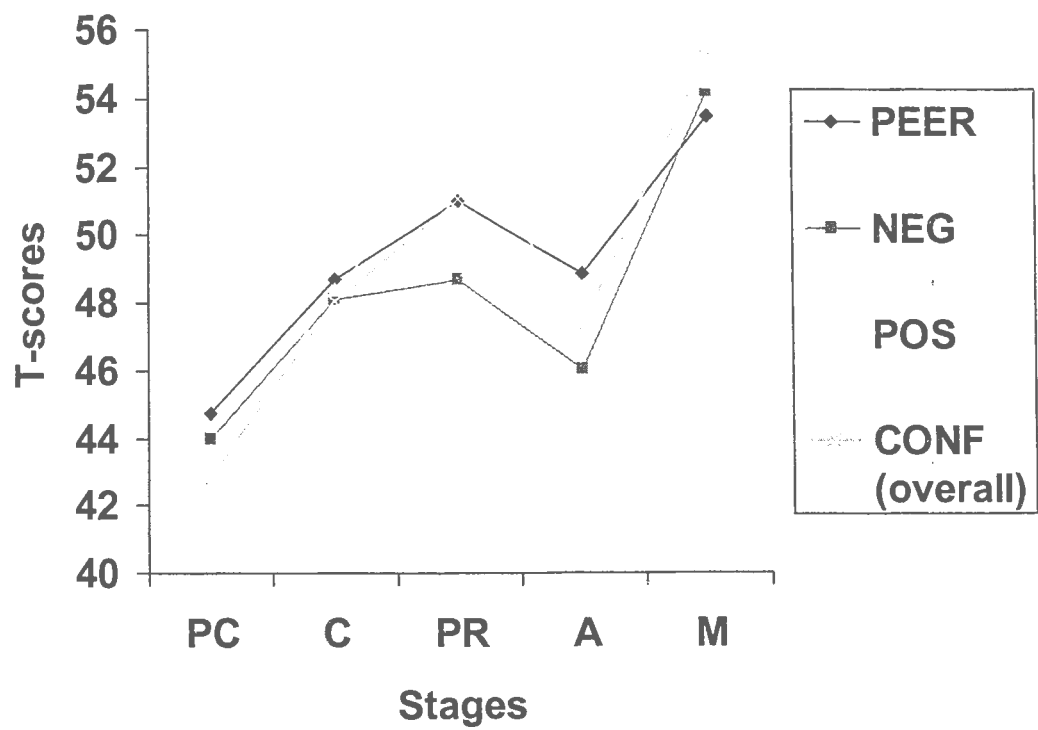


Figure 9

Temptation Subscales by Stage: Single Item Staging Algorithm

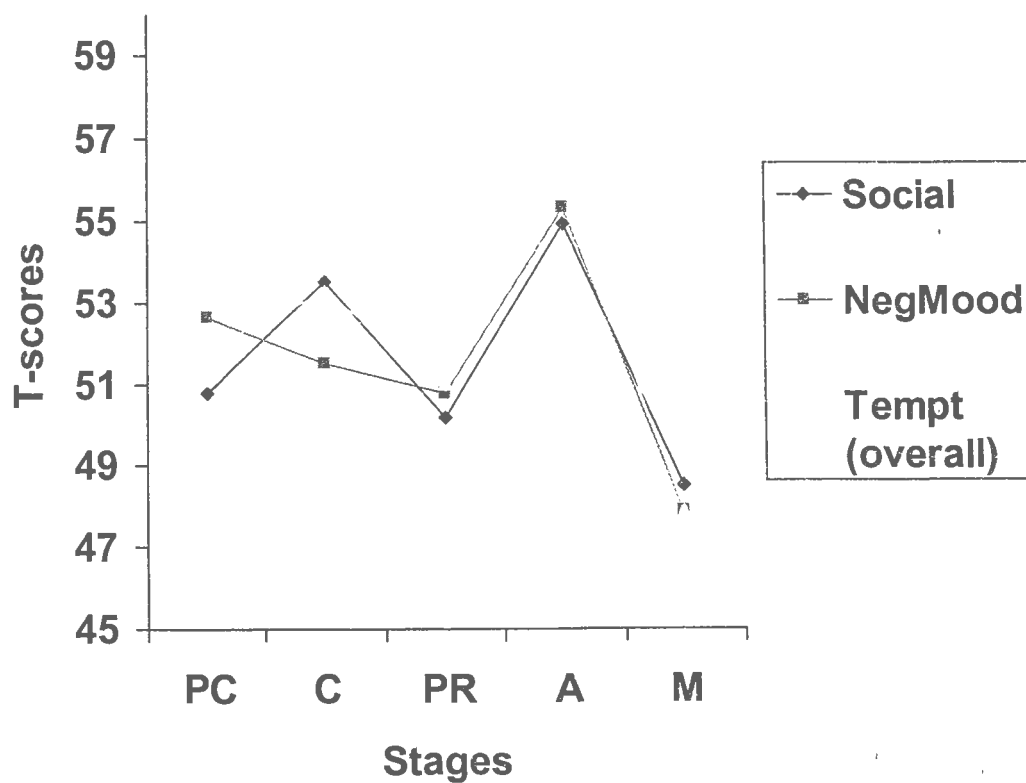


Figure 10

Comparing T-Scores on Religious Orientation Scales Across Stage (Single Item Staging Algorithm)

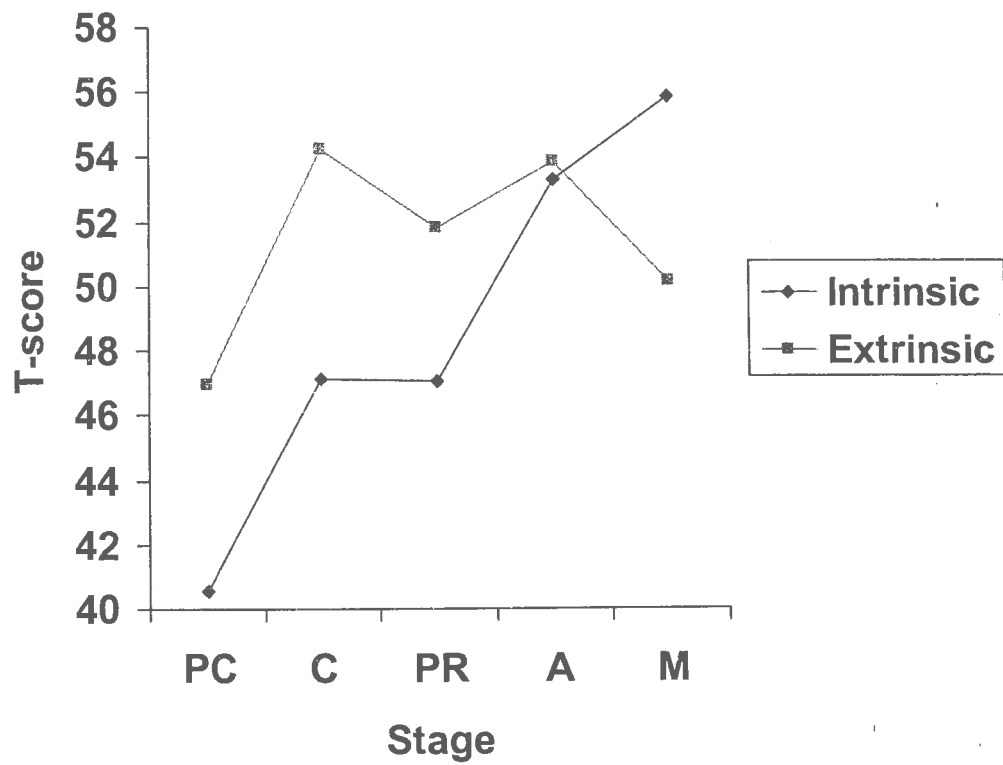


Figure 11

Comparing T-Scores on Spiritual Well-Being Scales Across Stage (Single Item Staging Algorithm)

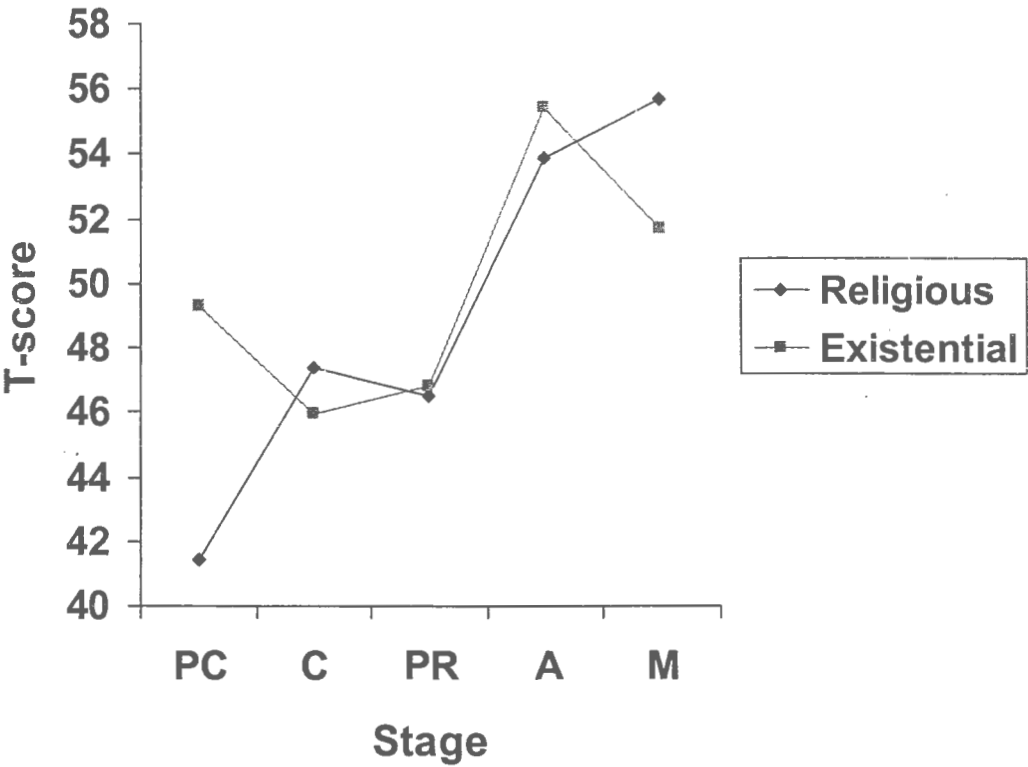


Figure12

Comparing T-Scores on Decisional Balance Scales Across Stage (Complex Staging Algorithm)

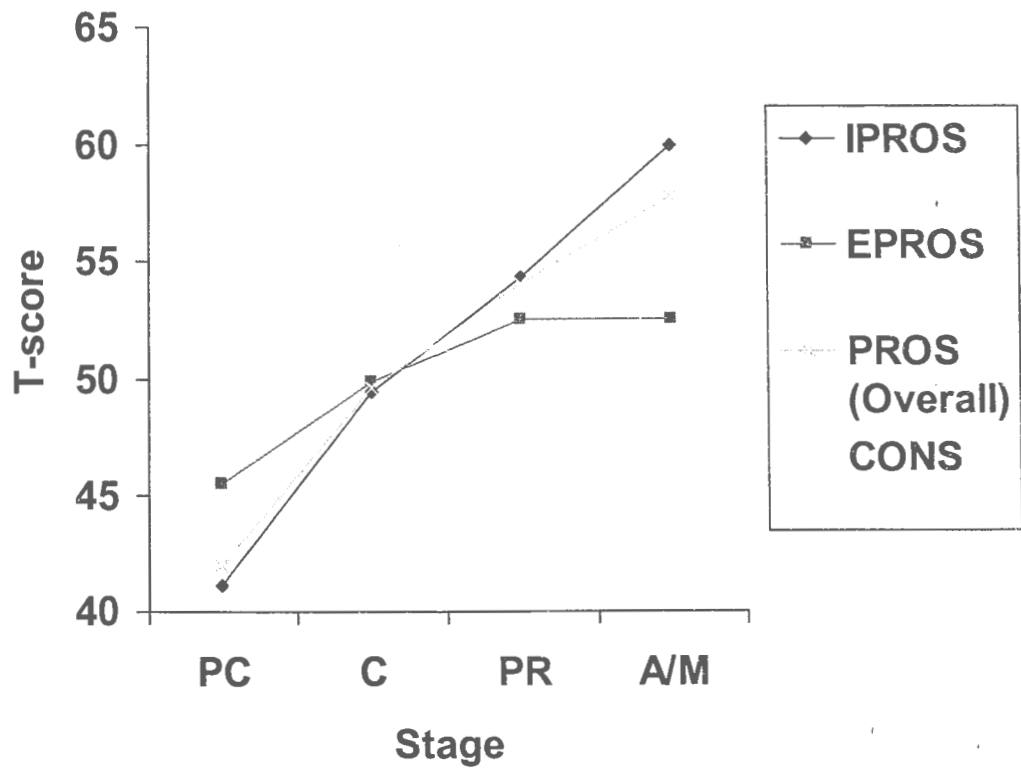


Figure 13

Confidence Subscales by Stages: Complex Staging Algorithm

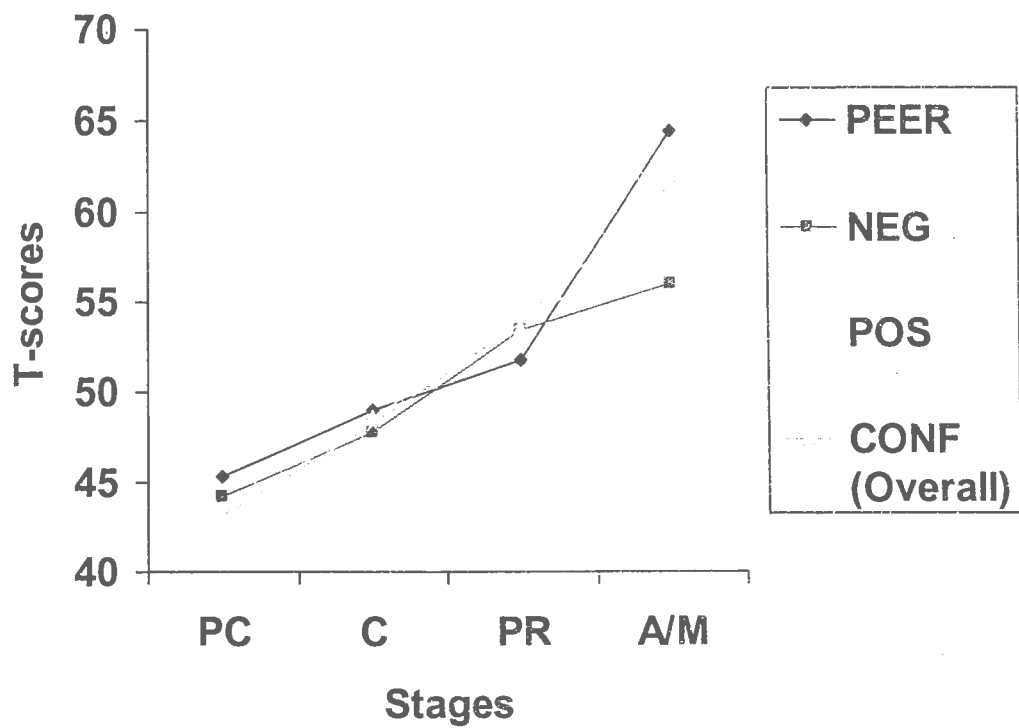


Figure 14

Temptation Subscales by Stages: Complex Staging Algorithm

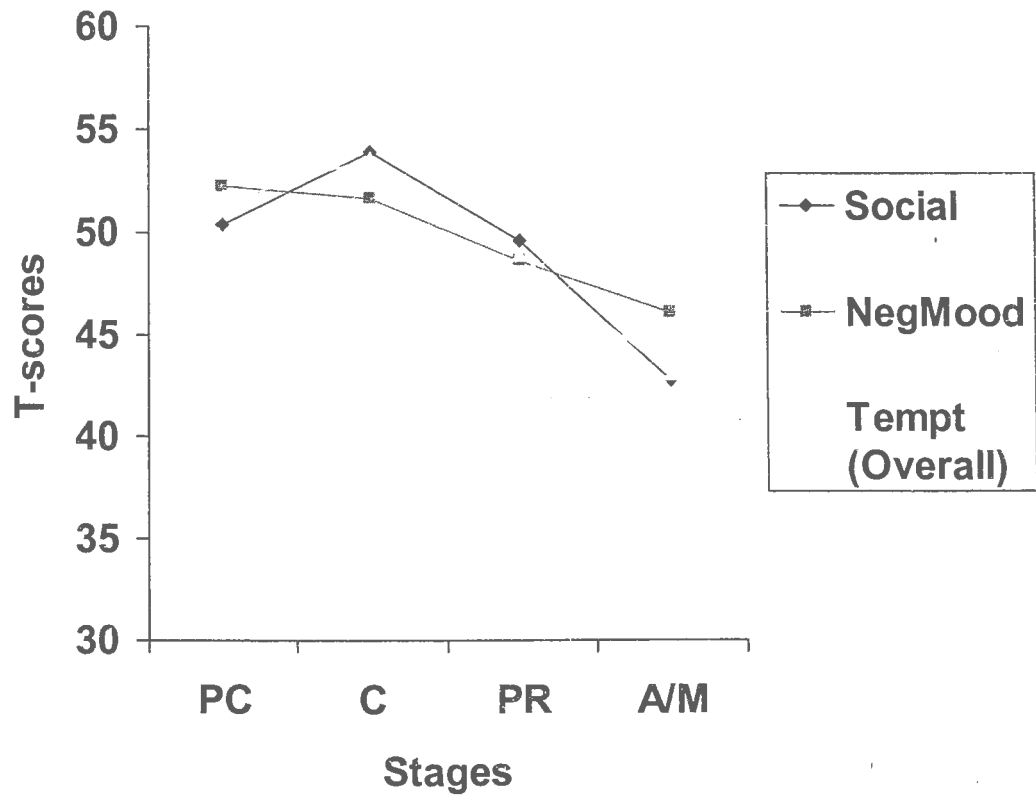


Figure 15

Comparing T-Scores on Religious Orientation Scales Across Stage (Complex Staging Algorithm)

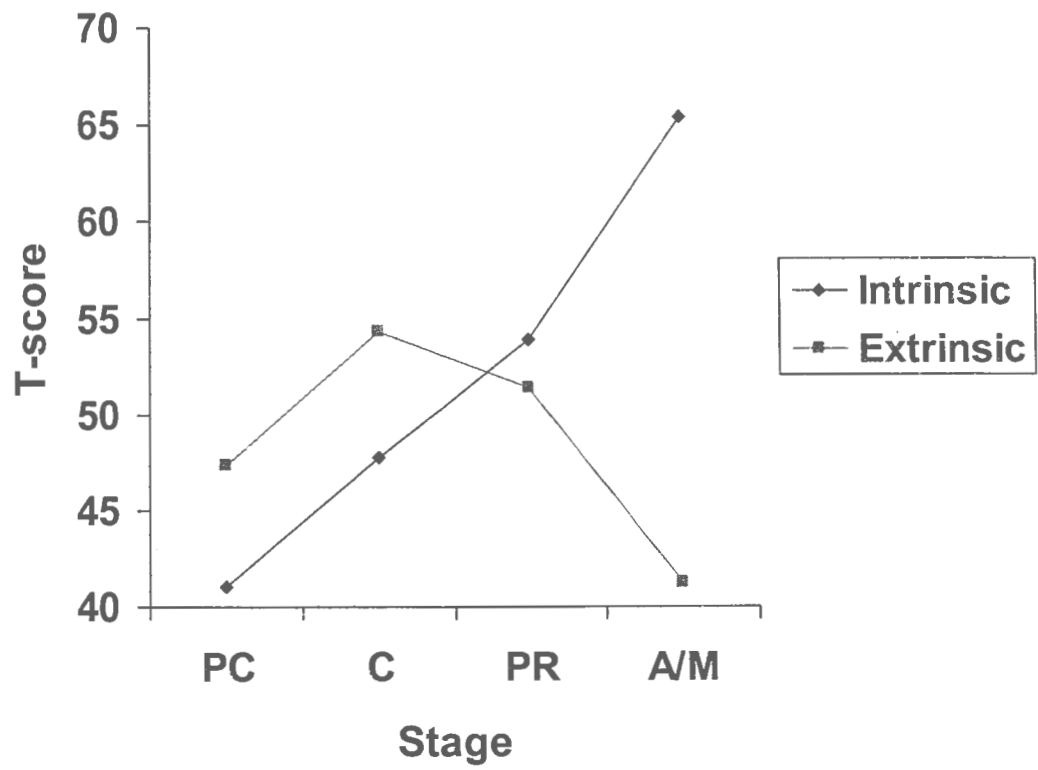
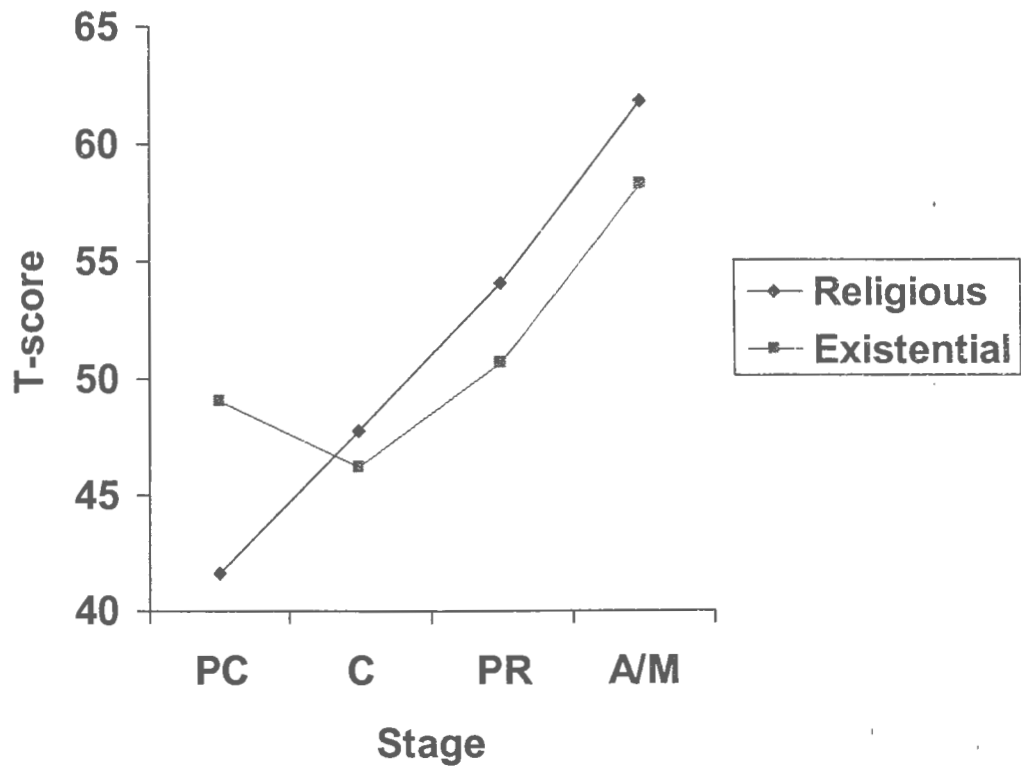




Figure 16

Comparing T-Scores on Spiritual Well-Being Scales Across Stage (Complex Staging Algorithm)



## Appendix A

### CONSENT FORM Examining Spirituality Survey

Dear Participant:

You have been asked to take part in the research project described below. The researcher will explain the project to you in detail. If you have any questions, please feel free to call John Ward or Dr. Joseph Rossi, the people mainly responsible for the study.

The purpose of the study is to gather information from students about issues of spirituality. Responses to these items will be completely anonymous. At no time will your name be tied to your responses. Only project personnel will have access to the survey responses.

1. YOU MUST BE AT LEAST 18 YEARS OLD to be in this research project.
2. If you decide to take part in this study, your participation will involve filling out a survey pertaining to problems in psychology.
3. The possible risks or discomforts of the study are minimal, although you may feel some embarrassment answering some of the questions about private matters.
4. Although there are no direct benefits of the study, your answers will help increase the knowledge regarding the status of problems in psychology.
5. Your part in the study is confidential. That means your answers to all questions are private. No one else can find out what your answers are. Scientific reports will be based on group data and will not identify you or any individual as being in this project. You will be assigned a participant number for tracking purposes only.
6. The decision to participate in this research is up to you. You do not have to participate and you can refuse to answer any question.
7. Participation in this study is not expected to be harmful or injurious to you. However, if this study causes you any injury, you should write or call John Ward (401) 874-5128 or Dr. Joseph Rossi at (401) 874-5983.

If you have any more questions or concerns about this study, you may contact University of Rhode Island's Vice Provost for Graduate Studies, Research and Outreach, 70 Lower College Road, Suite 2, URI, Kingston, RI, (401) 874-4576.

You are at least 18 years old. You have read the consent form and your questions have been answered to your satisfaction. Your filling out the survey implies your consent to participate in this study.

If these questions are upsetting and you want to talk, please use the phone number below:  
University of Rhode Island Counseling Center 874-2288

Thank you,

*John Ward*

Student Investigator

## APPENDIX B

### Consent Form

#### Examining Spirituality Survey

Dear Participant:

You have been asked to take part in the research project described below. The researcher will explain the project to you in detail. If you have any questions, please feel free to call John Ward or Dr. Rose Marie, the people mainly responsible for the study.

The purpose of the study is to gather information from students about issues of spirituality. Responses to these items will be completely anonymous. At no time will your name be tied to your responses. Only project personnel will have access to the survey responses.

1. YOU MUST BE AT LEAST 18 YEARS OLD to be in this research project.
2. If you decide to take part in this study, your participation will involve filling out a survey pertaining to problems in psychology.
3. The possible risks or discomforts of the study are minimal, although you may feel some embarrassment answering some of the questions about private matters.
4. Although there are no direct benefits of the study, your answers will help increase the knowledge regarding the status of problems in psychology.
5. Your part in the study is confidential. That means your answers to all questions are private. No one else can find out what your answers are. Scientific reports will be based on group data and will not identify you or any individual as being in this project. You will be assigned a participant number for tracking purposes only.
6. The decision to participate in this research is up to you. You do not have to participate and you can refuse to answer any question.
7. Participation in this study is not expected to be harmful or injurious to you. However, if this study causes you any injury, you should write or call John Ward (513) 529-4634 or Dr. Rose Marie Ward at (513) 529-3751.

If you have any more questions or concerns about this study, you may contact Miami University's Office of Scholarship and Teaching (513.529.3734)

You are at least 18 years old. You have read the consent form and your questions have been answered to your satisfaction. Your filling out the survey implies your consent to participate in this study.

If these questions are upsetting and you want to talk, please use the phone numbers below:

Miami University Student Counseling Service 529-4634

Psychology Clinic Benton Hall 529-2423

Community Counseling and Crisis Center 523-4146

Thank you,

*John Ward, MA*

Principal Investigator

## APPENDIX C

### Spiritual Well Being Scale (SWBS) (Paloutzian and Ellison, 1982; Ellison, 1983)<sup>1</sup>

For each of the following statements, circle the choice that best indicates the extent of your agreement or disagreement as it describes your personal experience.

SA = Strongly Agree

MA = Moderately Agree

A = Agree

D = Disagree

MD = Moderately Disagree

SD = Strongly Disagree

1. I don't find much satisfaction in private prayer with God.
2. I don't know who I am, where I came from, or where I'm going.
3. I believe that God loves me and cares about me.
4. I feel that life is a positive experience.
5. I believe that God is impersonal and not interested in my daily situations.
6. I feel unsettled about my future.
7. I have a personally meaningful relationship with God.
8. I feel very fulfilled and satisfied with life.
9. I don't get much personal strength and support from my God.
10. I feel a sense of well-being about the direction my life is headed in.
11. I believe that God is concerned about my problems
12. I don't enjoy much about life.
13. I don't have a personally satisfying relationship with God.
14. I feel good about my future.
15. My relationship with God helps me not to feel lonely.
16. I feel that life is full of conflict and unhappiness.
17. I feel most fulfilled when I'm in close communion with God.
18. Life doesn't have much meaning.
19. My relationship with God contributes to my sense of well-being.
20. I believe there is some real purpose for my life.

---

<sup>1</sup> Items are scored 1-6, with higher number representing more well being. Reverse scoring for negatively worded items. Odd-number items assess religious well-being; even number items assess existential well-being.

## APPENDIX D

### Religious Orientation Scale (ROS) (Allport & Ross, 1976; Baston et al., 1993)

Please indicate the extent to which you agree or disagree with each item below by using the following scale.

1 = Strongly Disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly Agree

#### Extrinsic Subscale<sup>2</sup>

1. Although I believe in my religion, I feel there are many more important things in my life.
2. It doesn't matter so much what I believe as long as I lead a moral life.
3. The primary purpose of prayer is to gain relief and protection.
4. The church is most important as a place to formulate good social relationships.
5. What religion offers me most is comfort when sorrow and misfortune strike.
6. I pray chiefly because I have been taught to pray.
7. Although I am a religious person I refuse to let religious considerations influence my everyday affairs.
8. A primary reason for my interest in religion is that my church is a congenial social activity.
9. Occasionally I find it necessary to compromise my religious beliefs in order to protect my social and economic well-being.
10. One reason for my being a church member is that such membership helps to establish a person in the community.
11. The purpose of prayer is to secure a happy and peaceful life.

#### Intrinsic Subscale

1. It is important for me to spend periods of time in private religious thought and meditation.
2. If not prevented by unavoidable circumstances, I attend church.
3. I try hard to carry my religion over into all my other dealings in life.
4. The prayers I say when I am alone carry as much meaning and personal emotion as those said by me during services.
5. Quite often I have been keenly aware of the presence of God or the Divine Being.
6. I read literature about my faith (or church).
7. If I were to join a church group I would prefer to join a Bible study group rather than a social fellowship.
8. My religious beliefs are really what lie behind my whole approach to life.
9. Religion is especially important because it answers many questions about the meaning of life.

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<sup>2</sup> The ordering of all 20 items should be randomized

## Appendix E

### GENERAL INSTRUCTIONS:<sup>3</sup>

This survey is anonymous. Please do not write your name or any identifying information on this survey form. This survey is about your views and feelings on spirituality. There are no right or wrong answers to the questions in the survey. Before you begin, please review the attached consent form. Completing this survey means that you understand your rights and agree to participate in the survey.

Thank You

1. People have many different definitions of the “Higher Power” or “Existential Force” that we often call “God.” Please use your personal definition of God when answering all of the following questions.
2. Similarly, people have many different definitions, variations, and names for religious/spiritual gatherings (i.e. church, synagogue, group meeting) and spiritual texts (i.e. Torah, Koran, Bible). Please use your personal definition, variation, or name for religious/spiritual gatherings and spiritual texts when answering all of the following questions.
3. It is best to answer according to what really reflects your personal experience rather than what you think your experience should be.
4. Give the answer that comes to mind first. Don’t spend too much time thinking about a question.
5. Give the best possible response to each statement even if does not provide all of the information that you would like.

Please, try your best to respond to ALL statements. Your answers will be completely confidential.

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<sup>3</sup> Adapted from instruction presented by Hall & Edwards (1996) and Kass et al. (1991)

Spiritual Expression is an active and deliberate manifestation of beliefs or behaviors, which are sacred in nature. Spiritual expression comprises activity (e.g. church attendance, prayer/meditation, Bible reading), which is performed to enhance one's spiritual life. Such activity should be a consistent concern and is selected by choice (i.e. it is not mandatory). Spiritual Expression does not have to consume your day but is done to increase your awareness and growth.

1. Are you currently engaged in spiritual expression according to the previous definition?

- ☐ Yes, I have been for MORE than 6 months.
- ☐ Yes, I have been for LESS than 6 months.
- ☐ No, but I intend to in the next 30 days.
- ☐ No, but I intend to in the next 6 months.
- ☐ No, and I do not intend to in the next 6 months.

2. Do you believe in God, a supreme being, higher power, or an existential driving force in life?

- ☐ No
- ☐ Yes

3. Do you pray, meditate, or have a time of reflection 3 or more times a week?

- ☐ No, I have never prayed, meditated, or had a time of reflection.
- ☐ No, I have prayed, meditated, or reflected before, but not currently.
- ☐ No, I pray, meditate, or reflect less than 3 times a week.
- ☐ Yes, I pray, meditate, or reflect 3 or more times a week.

4. Do you read spiritual texts, which are intended to enhance your awareness and growth 3 or more times a week?

- ☐ No, I have never read spiritual texts.
- ☐ No, I have read spiritual texts in the past, but not currently.
- ☐ No, I read spiritual texts less than 3 times a week.
- ☐ Yes, I read spiritual texts 3 or more times a week.

5. Do you attend spiritual/religious gatherings at least once per week?

- ☐ No, I have never attended spiritual/ religious gatherings.
- ☐ No, I have attended spiritual/ religious gatherings, but not currently.
- ☐ No, I attended spiritual/ religious gatherings less than once a week.
- ☐ Yes, I attend spiritual/ religious gatherings once (or more) a week.

## SECTION TWO

The following statements represent different opinions about spiritual expression. Please rate **HOW IMPORTANT** each statement is to your decision to express spirituality according to the following five-point scale.

		Extremely important 5		Very Important 4		Somewhat Important 3		Not Very Important 2		Not At All Important 1
1. I feel at peace when I express my spirituality.	1	2	3	4	5					
2. Few people around me read spiritual texts.	1	2	3	4	5					
3. I am a good/ moral people because I pray, meditate, or reflect.	1	2	3	4	5					
4. I would feel embarrassed if my family saw me reading spiritual texts.	1	2	3	4	5					
5. There is no point in expressing my spirituality.	1	2	3	4	5					
6. My parents approve of my spiritual expression.	1	2	3	4	5					
7. I will bring my life into harmony if I express my spirituality.	1	2	3	4	5					
8. My friends approve of my spiritual expression.	1	2	3	4	5					
9. Spiritual expression causes strife and disagreement among people.	1	2	3	4	5					
10. I am a good / moral person because I read spiritual texts.	1	2	3	4	5					
11. I have a sense of purpose in life when I express my spirituality.	1	2	3	4	5					
12. It is boring to go to religious/spiritual gatherings.	1	2	3	4	5					
13. Spiritual/Religious gatherings are a time to spend time with loved ones.	1	2	3	4	5					
14. I am closer to God when I pray, meditate, or reflect.	1	2	3	4	5					
15. Prayer, mediation, or reflection brings my life into harmony.	1	2	3	4	5					
16. I feel relaxed when I pray.	1	2	3	4	5					
17. I will lose the respect of my family if I express my spirituality.	1	2	3	4	5					
18. I don't have time to pray.	1	2	3	4	5					



## SECTION TWO CONTINUED

HOW IMPORTANT ARE THE FOLLOWING IN YOUR DECISION TO EXPRESS SPIRITUALITY?		Extremely Important 5				
		Very Important 4				5
		Somewhat Important 3			4	
		Not Very Important 2		3		
		Not At All Important 1				
19.	I am a good/moral person because I go to religious/spiritual gatherings.	1	2	3	4	5
20	I am good/moral person because I believe in God.	1	2	3	4	5
21.	Many people around me pray.	1	2	3	4	5
22	I will lose the respect of my friends if I express my spirituality.	1	2	3	4	5
23.	I will lose the respect of loved ones if I express my spirituality.	1	2	3	4	5
24	I am closer to God when I express my spirituality.	1	2	3	4	5
25.	I don't have time to read spiritual texts.	1	2	3	4	5
26	I get to see family when I go to religious/spiritual gatherings.	1	2	3	4	5
27.	I find to boring to read spiritual texts.	1	2	3	4	5
28	I get no fulfillment out of going to religious/spiritual gatherings.	1	2	3	4	5
29.	I don't have time go to religious/spiritual gatherings.	1	2	3	4	5
30	I do not understand the meaning of spiritual texts.	1	2	3	4	5
31.	Many people around me go to religious/spiritual gatherings.	1	2	3	4	5
32	I feel at peace during religious/spiritual gatherings.	1	2	3	4	5
33.	I am embarrassed to go to religious/spiritual gatherings.	1	2	3	4	5
34	Spiritual expression puts a burden on me.	1	2	3	4	5
35.	It is difficult to go to religious/spiritual gatherings.	1	2	3	4	5
36	There are too many rules to follow in spiritual expression.	1	2	3	4	5
37.	My friends are not involved in my spiritual expression.	1	2	3	4	5
38	I feel relaxed when I read spiritual texts (Bible, Torah, Koran, Book or Mormon, etc).	1	2	3	4	5

## SECTION TWO CONTINUED

HOW IMPORTANT ARE THE FOLLOWING IN YOUR DECISION TO EXPRESS SPIRITUALITY?	Extremely Important 5							
	Very Important 4							
	Somewhat Important 3							
	Not Very Important 2							
	Not At All Important 1							
39. Spiritual expression takes time away from other activities.	1	2	3	4	5			
40. I like going to religious/spiritual gatherings.	1	2	3	4	5			
41. I would feel embarrassed if my friends saw me reading spiritual texts.	1	2	3	4	5			
42. My family is not involved in my spiritual expression.	1	2	3	4	5			
43. I would feel embarrassed if my friends saw me praying.	1	2	3	4	5			
44. I will lose friends if I go to religious/spiritual gatherings.	1	2	3	4	5			
45. Spiritual expression causes unity among people.	1	2	3	4	5			
46. Praying cheers me up.	1	2	3	4	5			
47. People think I'm foolish for going to religious/spiritual gatherings.	1	2	3	4	5			
48. I would feel embarrassed if my family saw me praying.	1	2	3	4	5			
49. Few people around me go to religious/spiritual gatherings.	1	2	3	4	5			
50. I will lose friends if I express my spirituality.	1	2	3	4	5			
51. I have nothing to gain by praying.	1	2	3	4	5			
52. I find it complicated to read spiritual texts.	1	2	3	4	5			
53. Many people around me read spiritual texts.	1	2	3	4	5			
54. Many people around me believe in God.	1	2	3	4	5			
55. My spiritual expression is different from others around me.	1	2	3	4	5			
56. I have nothing to gain by believing in God.	1	2	3	4	5			
57. Few people around me pray.	1	2	3	4	5			

# SECTION TWO CONTINUED

HOW IMPORTANT ARE THE FOLLOWING IN YOUR DECISION TO EXPRESS SPIRITUALITY?		Extremely Important 5				
		Very Important 4				5
		Somewhat Important 3			4	
		Not Very Important 2		3		
		Not At All Important 1				
58.	I have nothing to gain by going to religious/spiritual gatherings.	1	2	3	4	5
59	The people at religious/spiritual gatherings do not accept me.	1	2	3	4	5
60.	I cannot find a religious/spiritual gathering without flaws.	1	2	3	4	5
61	People think I'm foolish for believing in God.	1	2	3	4	5
62.	I feel accepted when I go to religious/spiritual gatherings.	1	2	3	4	5
63	My family would stay out of trouble if they attended religious/spiritual gatherings.	1	2	3	4	5
64.	The leader of the religious/spiritual gatherings does not accept me.	1	2	3	4	5
65	Spiritual expression enriches my life.	1	2	3	4	5
66.	I like my friends because they express spirituality.	1	2	3	4	5
67	I like my family because they express spirituality.	1	2	3	4	5
68.	Spiritual expression does not enrich my life.	1	2	3	4	5
69	I get to see friends when I go to religious/spiritual gatherings.	1	2	3	4	5
70.	Organized religion will take advantage of me if I express spirituality.	1	2	3	4	5
71	I do not like organized religion.	1	2	3	4	5
72.	Others will take advantage of me if I express spirituality.	1	2	3	4	5
73	I do not like spiritual people.	1	2	3	4	5
74.	I cannot monetarily afford to go to religious/spiritual gatherings.	1	2	3	4	5
75	I like spiritual people.	1	2	3	4	5
76.	I will go to heaven if I express my spirituality.	1	2	3	4	5
77	Singing spiritual/religious songs is soothing.	1	2	3	4	5
78.	My friends would stay out of trouble if they attended religious/spiritual gatherings.	1	2	3	4	5

### SECTION THREE

Listed below are situations in which some people express themselves spiritually. We would like to know **HOW CONFIDENT OR HOW TEMPTED** you may be to express spirituality in each situation. Please answer the questions using the following five-point scale. You should have two answers for each item (one for being confident and one for being tempted).

1 = Not at all confident  
 2 = Not very confident  
 3 = Moderately confident  
 4 = Very confident  
 5 = Extremely confident

1 = Not at all tempted  
 2 = Not very tempted  
 3 = Moderately tempted  
 4 = Very tempted  
 5 = Extremely tempted

	<b>Confidence</b>						<b>Temptation</b>				
	How confident are you that you will express spirituality when _____?					Item	How tempted are to avoid expressing spirituality when _____?				
1	1	2	3	4	5	When I feel healthy and energetic.	1	2	3	4	5
2	1	2	3	4	5	When I feel proud of my accomplishments.	1	2	3	4	5
3	1	2	3	4	5	With friends at a study group.	1	2	3	4	5
4	1	2	3	4	5	When I am happy or in a good mood.	1	2	3	4	5
5	1	2	3	4	5	When I am relaxed.	1	2	3	4	5
6	1	2	3	4	5	Alone at religious/spiritual gatherings.	1	2	3	4	5
7	1	2	3	4	5	During the middle of the day.	1	2	3	4	5
8	1	2	3	4	5	Before I go to bed at night.	1	2	3	4	5
9	1	2	3	4	5	Alone in the dining hall.	1	2	3	4	5
10	1	2	3	4	5	After an argument with friends or a significant other.	1	2	3	4	5
11	1	2	3	4	5	When I first get up in the morning.	1	2	3	4	5
12	1	2	3	4	5	When I feel down or depressed.	1	2	3	4	5
13	1	2	3	4	5	During a meal	1	2	3	4	5
14	1	2	3	4	5	During sex.	1	2	3	4	5
15	1	2	3	4	5	While at the library.	1	2	3	4	5
16	1	2	3	4	5	When I have gotten a good grade.	1	2	3	4	5
17	1	2	3	4	5	When I am NOT with others who share my beliefs.	1	2	3	4	5
18	1	2	3	4	5	During a class presentation.	1	2	3	4	5
19	1	2	3	4	5	When no one understands me.	1	2	3	4	5
20	1	2	3	4	5	During work.	1	2	3	4	5
21	1	2	3	4	5	With family at a party.	1	2	3	4	5
22	1	2	3	4	5	After I have gotten a bad grade.	1	2	3	4	5
23	1	2	3	4	5	When things are not going my way.	1	2	3	4	5
24	1	2	3	4	5	While drinking.	1	2	3	4	5
25	1	2	3	4	5	Alone at a party.	1	2	3	4	5
26	1	2	3	4	5	During an exam.	1	2	3	4	5
27	1	2	3	4	5	When I feel angry or upset.	1	2	3	4	5

1 = Not at all confident  
 2 = Not very confident  
 3 = Moderately confident  
 4 = Very confident  
 5 = Extremely confident

1 = Not at all tempted  
 2 = Not very tempted  
 3 = Moderately tempted  
 4 = Very tempted  
 5 = Extremely tempted

	Confidence					Item	Temptation				
	How confident are you that you will express spirituality when _____?						How tempted are to avoid expressing spirituality when _____?				
28	1	2	3	4	5	With family at religious/spiritual gatherings.	1	2	3	4	5
29	1	2	3	4	5	When I feel I need a lift.	1	2	3	4	5
30	1	2	3	4	5	While doing drugs.	1	2	3	4	5
34	1	2	3	4	5	After an argument with a family member.	1	2	3	4	5
35	1	2	3	4	5	During a competition or performance.	1	2	3	4	5
36	1	2	3	4	5	With friends in the dining hall.	1	2	3	4	5
37	1	2	3	4	5	With friends in class.	1	2	3	4	5
38	1	2	3	4	5	With friend at a religious/spiritual gathering.	1	2	3	4	5
39	1	2	3	4	5	When I am alone.	1	2	3	4	5
40	1	2	3	4	5	When I am exercising.	1	2	3	4	5
41	1	2	3	4	5	During class.	1	2	3	4	5
42	1	2	3	4	5	After a fulfilling conversation with my significant other or friends.	1	2	3	4	5
43	1	2	3	4	5	When I am alone at school for the weekend.	1	2	3	4	5
44	1	2	3	4	5	When I am trying to relax.	1	2	3	4	5
45	1	2	3	4	5	When I am with people from a different ethnic background.	1	2	3	4	5
46	1	2	3	4	5	When I am with fraternity brothers or sorority sisters.	1	2	3	4	5
47	1	2	3	4	5	When I am broke(have no money).	1	2	3	4	5
48	1	2	3	4	5	When at the computer lab.	1	2	3	4	5
49	1	2	3	4	5	After a fulfilling conversation with family member(s).	1	2	3	4	5
50	1	2	3	4	5	With friends just hanging out.	1	2	3	4	5
51	1	2	3	4	5	When I feel respected.	1	2	3	4	5
52	1	2	3	4	5	When I am with others from the same ethnic background.	1	2	3	4	5
53	1	2	3	4	5	When I am with teammates.	1	2	3	4	5
54	1	2	3	4	5	When I am excited.	1	2	3	4	5
55	1	2	3	4	5	When I am with strangers.	1	2	3	4	5
56	1	2	3	4	5	When I feel embarrassed or ashamed	1	2	3	4	5
57	1	2	3	4	5	When I am with professors.	1	2	3	4	5
58	1	2	3	4	5	When I am with others of the same gender.	1	2	3	4	5

1 = Not at all confident  
 2 = Not very confident  
 3 = Moderately confident  
 4 = Very confident  
 5 = Extremely confident

1 = Not at all tempted  
 2 = Not very tempted  
 3 = Moderately tempted  
 4 = Very tempted  
 5 = Extremely tempted

	<b>Confidence</b>						<b>Temptation</b>				
	How confident are you that you will express spirituality when _____?					Item	How tempted are to avoid expressing spirituality when _____?				
59	1	2	3	4	5	While at a club.	1	2	3	4	5
60	1	2	3	4	5	When things are going my way.	1	2	3	4	5
61	1	2	3	4	5	While trying to find a parking place.	1	2	3	4	5
62	1	2	3	4	5	When I am with others from the opposite gender.	1	2	3	4	5
63	1	2	3	4	5	When I am with others who share my beliefs.	1	2	3	4	5
66	1	2	3	4	5	When I go home for the weekend.	1	2	3	4	5
67	1	2	3	4	5	With friends at a party.	1	2	3	4	5

## SECTION FOUR

Please indicate the extent to which you **agree or disagree** with each item below by using the following scale.

		<div> <div>Strongly Agree 6</div> <div>Moderately Agree 5</div> <div>Agree 4</div> <div>Disagree 3</div> <div>Moderately Disagree 2</div> <div>Strongly Disagree 1</div> </div>					
1.	I don't find much satisfaction in private prayer with God.	1	2	3	4	5	6
2.	I don't know who I am, where I came from, or where I'm going.	1	2	3	4	5	6
3.	I believe that God loves me and cares about me.	1	2	3	4	5	6
4.	I feel that life is a positive experience.	1	2	3	4	5	6
5.	I believe that God is impersonal and not interested in my daily situations.	1	2	3	4	5	6
6.	I feel unsettled about my future.	1	2	3	4	5	6
7.	I have a personally meaningful relationship with God.	1	2	3	4	5	6
8.	I feel very fulfilled and satisfied with life.	1	2	3	4	5	6
9.	I don't get much personal strength and support from my God.	1	2	3	4	5	6
10.	I feel a sense of well-being about the direction my life is headed in.	1	2	3	4	5	6
11.	I believe that God is concerned about my problems.	1	2	3	4	5	6
12.	I don't enjoy much about life.	1	2	3	4	5	6
13.	I don't have a personally satisfying relationship with God.	1	2	3	4	5	6
14.	I feel good about my future.	1	2	3	4	5	6
15.	My relationship with God helps me not to feel lonely.	1	2	3	4	5	6
16.	I feel that life is full of conflict and unhappiness.	1	2	3	4	5	6
17.	I feel most fulfilled when I'm in close communion with God.	1	2	3	4	5	6
18.	Life doesn't have much meaning.	1	2	3	4	5	6
19.	My relationship with God contributes to my sense of well-being.	1	2	3	4	5	6
20.	I believe there is some real purpose for my life.	1	2	3	4	5	6

## SECTION FIVE

Please indicate the extent to which you **agree or disagree** with each item below by using the following scale.

PLEASE INDICATE THE EXTENT TO WHICH YOU AGREE OR DISAGREE WITH EACH ITEM BELOW		Strongly Agree 5				
		Agree 4				5
		Neutral 3			4	
		Disagree 2		3		
		Strongly Disagree 1				
1.	Religion is especially important because it answers many questions about the meaning of life.	1	2	3	4	5
2.	Although I believe in my religion, I feel there are many more important things in life	1	2	3	4	5
3.	My religious beliefs are really what lie behind my whole approach to life.	1	2	3	4	5
4.	It doesn't matter so much what I believe as long as I lead a moral life.	1	2	3	4	5
5.	The primary purpose of prayer is to gain relief and protection.	1	2	3	4	5
6.	It is important for me to spend periods of time in private religious thought and meditation.	1	2	3	4	5
7.	The church is most important as a place to formulate good social relationships.	1	2	3	4	5
8.	If not prevented by unavoidable circumstances, I attend church.	1	2	3	4	5
9.	What religion offers me most is comfort when sorrow and misfortune strike.	1	2	3	4	5
10.	I pray chiefly because I have been taught to pray.	1	2	3	4	5
11.	I try hard to carry my religion over into all my other dealings in life.	1	2	3	4	5
12.	The prayers I say when I am alone carry as much meaning and personal emotion as those said by me during services.	1	2	3	4	5
13.	Quite often I have been keenly aware of the presence of God or the Divine Being.	1	2	3	4	5
14.	Although I am a religious person I refuse to let religious considerations influence my everyday affairs.	1	2	3	4	5
15.	If I were to join a church group I would prefer to join a Bible study group rather than a social fellowship.	1	2	3	4	5
16.	The purpose of prayer is to secure a happy and peaceful life.	1	2	3	4	5
17.	One reason for my being a church member is that such membership helps to establish a person in the community.	1	2	3	4	5
18.	I read literature about my faith (or church).	1	2	3	4	5
19.	Occasionally I find it necessary to compromise my religious beliefs in order to protect my social and economic well-being.	1	2	3	4	5
20.	A primary reason for my interest in religion is that my church is a congenial social activity.	1	2	3	4	5



<b>1. <u>What is your ethnicity?</u></b>		
Are you American Indian or Alaskan Native in origin?	Yes	No
Are you Asian in origin?	Yes	No
Are you African American in origin?	Yes	No
Are you African, Cape Verde an, or Haitian in origin?	Yes	No
Are you Hawaiian or Pacific Island in origins?	Yes	No
Are you Caucasian (European or Northern America) in origin?	Yes	No
Are you South American in origin?	Yes	No
Are you Middle Eastern in origin?	Yes	No
Are you Indian (Indian Sub-continent) in origin?	Yes	No
Other	Yes	
Not Sure	Yes	
<b>2. What is your age (in years)?</b>	_____	
<b>3. <u>What is your gender?</u></b>	<input type="radio"/> Male	<input type="radio"/> Female
<b>4. <u>What is your marital status? (check one)</u></b>		
<input type="radio"/> Married <input type="radio"/> Divorced <input type="radio"/> Not married, but living with partner <input type="radio"/> Widowed <input type="radio"/> Not married <input type="radio"/> Don't know <input type="radio"/> Separated		
<b>6. Are you are student athlete?</b>		
<input type="radio"/> No <input type="radio"/> Yes, club <input type="radio"/> Yes, varsity <input type="radio"/> Yes, intramural		
<b>7. Are you a member of the Greek system?</b>		
<input type="radio"/> No <input type="radio"/> Yes, academic or business (ex. Phi Beta Kappa, Delta Upsilon) <input type="radio"/> Yes, fraternity <input type="radio"/> Yes, both social and academic or business <input type="radio"/> Yes, sorority		

<b>8. What is your academic class standing?</b>				
<div style="display: flex; justify-content: space-between;"> <div> <input type="radio"/> Freshman (1<sup>st</sup> year)         </div> <div> <input type="radio"/> Senior (4<sup>th</sup> or more year)         </div> </div> <div style="display: flex; justify-content: space-between;"> <div> <input type="radio"/> Sophomore (2<sup>nd</sup> year)         </div> <div> <input type="radio"/> Graduate         </div> </div> <div style="display: flex; justify-content: space-between;"> <div> <input type="radio"/> Junior (3<sup>rd</sup> year)         </div> </div>				
<b>9. What is your sexual orientation?</b>				
<div style="display: flex; justify-content: space-between;"> <div> <input type="radio"/> Don't know         </div> <div> <input type="radio"/> Homosexual         </div> </div> <div style="display: flex; justify-content: space-between;"> <div> <input type="radio"/> Bisexual         </div> <div> <input type="radio"/> Heterosexual         </div> </div>				
<b>10. What is your spiritual orientation?</b>				
<div style="display: flex; justify-content: space-between;"> <div> <input type="radio"/> Atheist (there is no God)         </div> <div> <input type="radio"/> Spiritual (there is a God that we can have a relationship with)         </div> </div> <div style="display: flex; justify-content: space-between;"> <div> <input type="radio"/> Agnostic (if there is a God we cannot not know and understand it, I think there is something out there but I don't know what)         </div> <div> <input type="radio"/> Not sure         </div> </div>				
<b>11. Circle your <u>current</u> religious affiliation? (circle all that apply)</b>				
CHRISTIAN	HINDU	JEWISH	ISLAMIC	OTHER
Baptist	Saktas	Conservative	Ahmadia	Buddhism
Catholic	Saivas	Hasidic	Ismail	Shintoism
Episcopal	Vaishnavas	Orthodox	Nation of Islam	Taoism
Lutheran	Other	Reconstructionist	Salafi	Other not mentioned
Methodist		Reform	Shia	<b>None</b>
Non-denominational		Other	Sufi	
Pentecostal			Sunni	
Other			Other	
<b>12. Circle the religious affiliation <u>were you raised</u>? (circle all that apply)</b>				
CHRISTIAN	HINDU	JEWISH	ISLAMIC	OTHER
Baptist	Saktas	Conservative	Ahmadia	Buddhism
Catholic	Saivas	Hasidic	Ismail	Shintoism
Episcopal	Vaishnavas	Orthodox	Nation of Islam	Taoism
Lutheran	Other	Reconstructionist	Salafi	Other not mentioned
Methodist		Reform	Shia	<b>None</b>
Non-denominational		Other	Sufi	
Pentecostal			Sunni	
Other			Other	

<b>13. How many times per month do you attend spiritual/religious gatherings?</b>			
<input type="radio"/> 0	<input type="radio"/> 1-2	<input type="radio"/> 3-4	<input type="radio"/> 5 or more
<b>14. How many times per WEEK do you pray, meditate, or reflect?</b>			
<input type="radio"/> 0	<input type="radio"/> 1-2	<input type="radio"/> 3-4	<input type="radio"/> 5 or more
<b>15. How many times per WEEK do you read scriptures or spiritual writings?</b>			
<input type="radio"/> 0	<input type="radio"/> 1-2	<input type="radio"/> 3-4	<input type="radio"/> 5 or more
<b>16. Are you satisfied with your personal level of spiritual expression?</b>			
<input type="radio"/> No	<input type="radio"/> Unsure	<input type="radio"/> Yes	

**You have completed the survey. Thank you for your time and interest!**

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